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MEMOIRS
OF THE
MEDICAL SOCIETY
OF
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INSTITUTED IN THE YEAR 1773.

VOL. V.

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1799.



P R E F A C E.

THIS Society, originally formed with the view of promoting medical science in every department, has so fully answered the purposes of its institution, and its Memoirs have been so generally read, that nothing further seems requisite for the information of the public, than the names of the Authors, whose ingenious Communications have been successful in gaining the Society's Medals.

1795. *February* 16.

To Mr. John Mason Goode, F. M. S. Surgeon, of Guildford-street, Foundling Hospital, *Twenty Guineas*, for his Dissertation on the Diseases of Work Houses, Poor Houses, and similar Institutions; presented by a Fellow of the Society.

1795. *February 23.*

To Francis Rigby Brodbelt, M. D. C. M. S. now of Spanish Town, Jamaica, *The Silver Medal*, for his Paper on Quicksilver found on Human Bones.

1795. *February 23.*

To Dr. Black, of Newry, Ireland, *The Silver Medal*, for his Paper on Angina Pectoris.

1795. *February 23.*

To Dr. Guthrie, of Peterburgh, *The Silver Medal*, for his Paper on Dyfopia.

1797. *February 27.*

To Dr. Harrison, of Louth, Lincolnshire, *The Silver Medal*, for his Papers on the Solution of Iron in the Human and Canine Stomachs by means of diluted Nitric Acid; communicated by Sir Joseph Banks, Bart.

1797. *February 27.*

To Dr. Thomas, of Santa Cruz, *The Silver Medal*, for his Paper on the Poison of Fish.

1798. *February 26.*

To Robert Hooper, M. D. F. M. S. F. L. S. of Pembroke College, Oxford, *The Silver Medal*,

dal, for his Paper on the Worms infesting the Human Intestines.

1799. *March 4.*

To James Sims, M. D. Præf. Med. Soc. Lond. *The Silver Medal*, for his Paper intituled, “Pathological Remarks on the various Alienations of the Mind.”

1799. *March 4.*

To William Hunter, Esq. Surgeon in the East Indies, *The Silver Medal*, for his Paper on an Aneurism of the Aorta.

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For the Year 1800.

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6. *The best Way of treating Erysipelas.*

7. *The medicinal Effects of Phosphorus.*

8. *The Cause of the Heat in Fevers.*

For the Year 1801.

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2. With each Dissertation shall be delivered a sealed Packet with some Motto or Device on the outside; and within, the Author's Name and Designation; and the same Motto or Device shall be put upon the Dissertation, that the Society may know how to address the successful Candidate.

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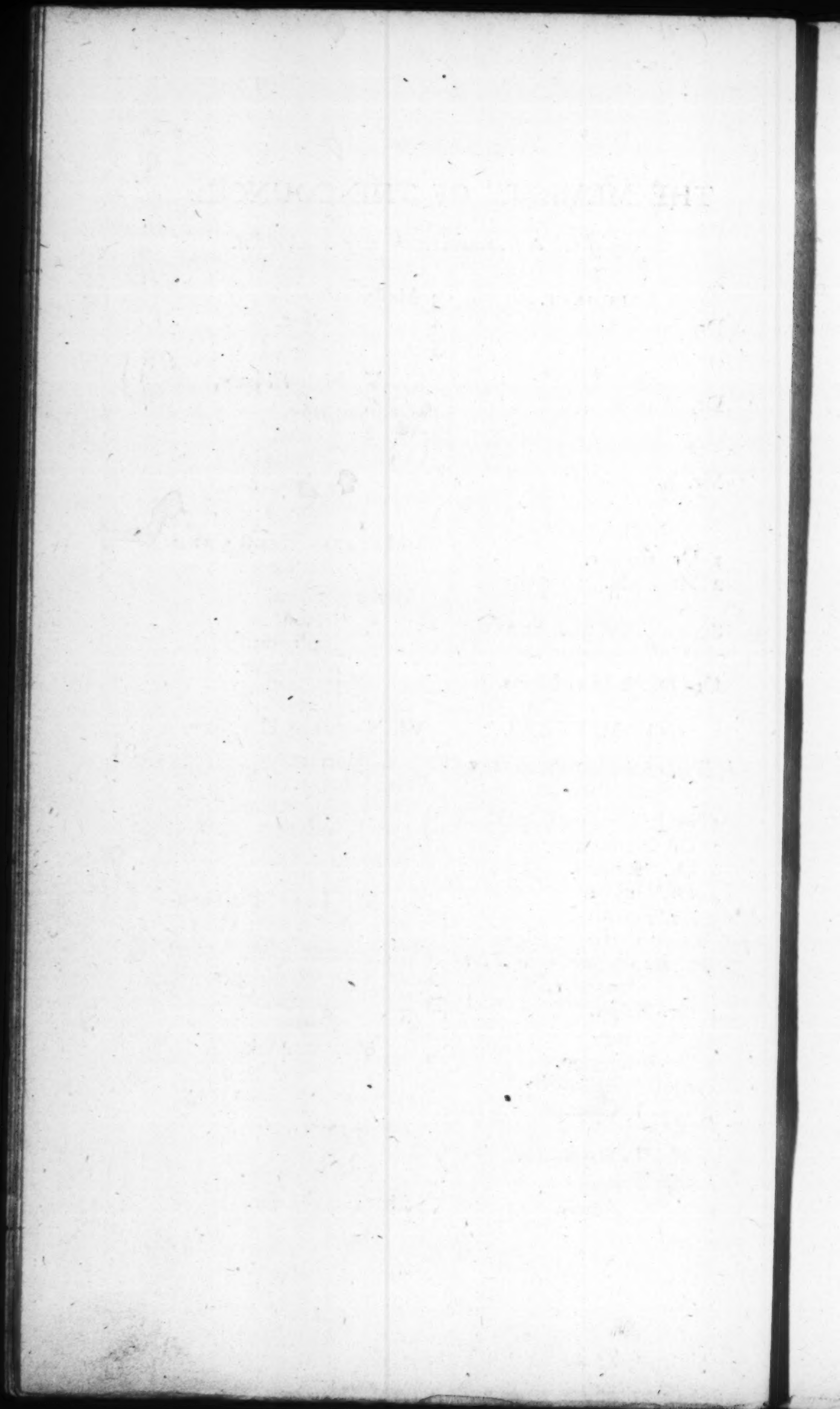
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ERRATUM.

Page 41, line 13, for *candice*, read *candice*.

M E M O I R S, &c.

A R T I C L E I.

History of a CASE of HYDROPHOBIA.

By WILLIAM GAITSKELL, SURGEON.

Read JANUARY 14, 1793.

DANIEL WHEATLY, a young man, about thirty years of age, of a fallow complexion, and dark brown hair, by trade a labouring blacksmith, was first attacked on Friday the 29th of June, 1792, with a pain in his right arm, on the inner side, about two inches above the cubitus, which extended to the axilla, top of the shoulder, and pharynx, and was accompanied with a great sense of coldness. The next day this pain became general, diffusing itself over the body like rheumatism, which he ascribed to the effect of cold water wantonly thrown over him in the preceding week, while he was hot. He continued thus, by his own account, with wandering pains, and slight febrile symptoms, till twelve

o'clock the following night (Sunday), at which time thirst coming on, he requested some drink, which the moment it was presented, excited such horror, as to oblige him hastily to refuse it. On Monday, our attendance being requested, we found him with the following symptoms: his pulse soft, but rather quick; tongue moist, but white; little thirst; stools and urine natural; pain at the præcordia, and creeping coldness over the whole body; great constriction about the throat when he attempted to take liquids, and more especially water. When water was produced, and he was invited to drink, his eyes became suddenly prominent; his nostrils were pinched in, and his face pale; these symptoms were attended with reiterated sighing. Being asked why water so distressed him, he replied, that on the approach of the cup to his lips, it produced such peculiar sensation, such a hardness and pain in his throat, as if the parts were compressed between boards.

Being convinced from the symptoms that our patient was afflicted with that dreadful disease hydrophobia, we sought to investigate its origin, and by interrogating his wife, we collected the following particulars: that about

nine

nine months past her husband was bit in the thumb and fore-finger of his right hand by a dog he attempted to drown, which dog was apparently rabid, though not judged to be so by himself; that in consequence of this, he refused to have medical assistance, but anointed the wounds with tallow, and suffered them to heal up spontaneously. In a fortnight's time the wounds appeared perfectly well, and no farther notice was taken of them.

The nature of the disease being confirmed to us, the next consideration led to the most eligible treatment. After reflecting on the inefficacy which has hitherto attended the most powerful and boasted antispasmodics, as well as the most noted empirical nostras, we concluded to make trial of oil; first, because oil is seriously recommended by the ingenious and learned Doctor James Sims, in the second volume of Medical Memoirs; secondly, because this remedy has since proved successful in the hands of Doctor Shadwel, as notified by the Monthly Review; and thirdly, because beneficial effects are recorded to have ensued on employing oil, in that valuable miscellany the Gentleman's Magazine *.

* Vide Med. Soc. Memoirs, Vol. III. p. 454.

Oil being the chosen remedy, we began with two tablespoonfuls at eight in the evening of Monday, which were swallowed with tolerable ease; and we enjoined their repetition every two hours, unless he should be asleep, or the medicine be refused by the stomach. In addition to this, we advised its external application, this application to be general, and to be repeated every four hours. When we visited our patient next morning, he informed us that all his rheumatic pains had vanished, and the medicine remained well upon his stomach, though it was sometimes swallowed with ease, and sometimes with considerable difficulty; but that the frictions with oil were distressing to a degree; exciting violent spasms, with pain in the præcordia and throat. We therefore omitted the use of oil in frictions, but persisted in its internal use, till twenty-four ounces were consumed, when we agreed to reject its continuance, as the symptoms seemed rapidly augmenting. Being now at a loss for an antidote, and the oil having failed us, we turned our attention to the Ormkirk, a packet of which we speedily procured, and administered in three several doses—one about twelve at noon (of
the

the Wednesday), another about six in the evening, and the third about seven in the morning (of Thursday), on the evening of which no benefit was perceived from the medicine, but the symptoms seemed changed for the worse, our patient becoming timid and fearful—uncommonly sensible to the least noise or light—restless, and disposed to delirium. In this state of things, the mind being perfect before, we at last had recourse to opium, which we liberally prescribed in combination with cinnabar, but no kind of relief was afforded.

On Friday our patient became furious, and was obliged to be ruled by coercion. After fluctuating between mild and furious delirium, with some short intervals of sense, on Sunday he suddenly expired; ten days from the attack of pain in his arm, and eight from the appearance of hydrophobia.

The parts about the throat were not examined by dissection, the body not being permitted to be inspected.

His aliment was butcher's meat, bread, light puddings, and potatoes, all of which he took very sparingly; but porter was the only liquid he could swallow, and that only at particular intervals.

ARTICLE II.

*Funesta, Passionis Iliacæ, Historia; partium-
que morbosarum post mortem Anatomia.*

WICKENS HODGES, CHIRURGUS,

JOHAN. C. LETTSOM, M. D. S. D.

Perlecta die 10^{to} JUNII 1793.

QUONIAM casus, qualis iste, de quo nupèr tecum sermonem habebam, rarò medicinam exercentibus occurrit; rariusque adhuc apud nos, post ægroti obitum, corporis interiores partes inspiciendi, potestas datur; rem totam ordine literis persequar, hoc tibi minùs ingratum fore sperans, quòd per morbi decursum, tum symptomata, tum adhibita remedia, diligenter annotâsti. Multa, ab hâc inusitatâ scribendi ratione (quam vix primoribus, ut aiunt, labris attigi) dehortantur; tacuisse tamen injurium certè fuisset; præsertim cum ipse auctor eras, ut quicquid lateret, indagatione haud dubiâ exploraretur.

Morbus,

Morbus, de quo agitur, exeunte Octobre ingruere cæpit, cum dolore intestinorum, alvoque solitâ astrictiori. His mōx supervenit diarrhœa, quæ tridui spatium permansit. Per id tempus paulò remissior fuit, sed nunquam omninò cessavit, dolor. Alvi profluvio subitò conquiescente, redierunt tormina, multò, quam sub primo morbi impetû, graviora.

Cum primum accersitus essem, hoc morbo septimanas ferè duas jam laboraverat æger, quem doloribus suprâ memoratis excruciatum inveni. Durities totam regionem umbilicalem occupaverat, cui parti dolor fixus inhærebat. Pulsus debilis, justòque crebrior.

Novembris 8^{vo}.—Nullis adhuc exhibitis remediis, medicamentum catharticum morbo accommodatum, post incisam venam, deglutivit æger; cumque alvus post horas quatuor non responderet, idem, sed nullo prorsus successû, repetitum fuit.—Enema emolliens statim injiciendum curavi, quod tertiâ quâque horâ (si prius nil valeret) repetendum jussi; hoc insuper addito, ut spatiis intermediis misturæ solutivæ (cum oleo ricini) cochlearia tria subinde assumeret. Fetus communis, et linimentum oleosum per vices frequentèr toto abdomini applicantur.

Novembris 9^{no}.—Nihil adhuc per anum dejicitur, symptomata atrociora redduntur. Durities in tumorem conspicuum succrescens, ad partes vicinas sese extendit.

A fortioribus irritantibus remediis five per os, five per clysteres omnino jam abstinebam; ne vel viscerum inflammatio, vel motus intestinalium inversus augeretur.

Enemata oleosa semel atque iterum repetuntur, vesperi balneum calidum ingreditur. Sub noctem ad vomendum erat proclivis, et infuso florum chamæmeli adhibito, vermes emisit duos generis istius, quod teretum five rotundorum nomine, apud medicos distinguitur. Cum vomitio desisset, doloris cessatio, ægro spem revocabat; sed eheu, quam brevis, quam incerta est humana felicitas? Ecce enim, paucis elapsis horis, majori cum cruciatu, ingruunt symptomata.

—— 10^{mo}.—Abdominis nulla pars tensione vacat, sed in horas augeri et dolorem et tumorem persentimus. Materiæ sæculentæ magnam copiam unâ cum tribus vermibus evomit.

Enemata, fatus, et embrocationes etiam atque etiam repetuntur; sed omnia irrita.

Alvi obstructio et excrementorum vomitus
(duo

(duo specialia iliaci morbi symptomata) vitæ periculum palàm denunciant. Huic opinioni assentit auctor apud medicos insignis.—‘ Etsi
“ ileus alius alio, inquit, periculosior sit, ex-
“ itialem tamen ut plurimum esse experientiâ
“ constat, præsertim eum, cui accidit vomitus
“ materiæ fæculentæ, et ex his nulli eva-
“ dunt.”

Sanitatis recuperandæ spes nulla. Omne remedium pertinacitèr aspernatur morbus, nec quicquam intentatum, nisi incertum illud per-
fugium, (ad quod in extremis decurritur) nempe, mercurium crudum glutire. De imminente igitur periculo cognatos præmoneo, hujusque medicamenti experimentum propono; certam, ni id fieret, mortem denuncians. Huic assenserunt et ægrotus ipse, et propinqui omnes.

Uncias duas mercurii horâ decima matutinâ præscribo, dosin repetens donec ad decem perventum est. Horas tres singulis interpono, uti constet, quid prior præstiterit dosis antequam nova ingeratur. Spatiis intermediis clysteres injiciuntur, et mistura oleosa solutiva adhibetur.

—— 12^{mo}.—Alvo adhuc astrictâ, horisque

risque decem ab ultimâ hydrargyri dosi interpositis, nil aliud faciendum existimabam nisi ejusdem repetitionem. Sextam ideò hauriebat dosin, unâ cum misturâ heri præscriptâ et decocto hordei pro potû.

Ad mercurii vim promovendam, deambulatio, aliique pro viribus corporis motus instituuntur. vesperi oleum ope syringis in anum injicio, sed nullis remediis vel dolor cedit, vel obstructio. Ex omnibus, quotquot immissa fuere enemata, ne unum quidem in corpore horæ momentum mansit; sed reddita erant, antequam fistula educi posset.—Vomitibus semel tantum per diem revertitur.

—— 13°.—Symptomata hodierna, ab hesternis, vix discrepantia reperio. Vires necessario, morbi diuturnitate, magis magisque franguntur; pulsus tremulus et frequentissimus. Alternis solum abhinc diebus, redit vomitio. Nunc extremum spiritum adstantibus ducere, nunc reviviscere videtur, et sic perpetuo doloris cruciatû (præter omnium expectationem) vitam usque ad dies octo alios miserrimam traxit.

Abdomine aperto, viscera in hoc statû reperiiebantur.

Omentum

Omentum juxta ventriculum, admodum contractum—subnigrum omni fere adipe privatum.

Intestina parva, mole distenta fuere, quali in crassis nunquam observaveram.

Ventriculus et duodenum excremento fluido referta, nullâ omninò putredine affecta.

Jejunum et ileum mirum in modum (ut supra diximus) inflata, sphacelo nigra et putrida reddita.

Cæcum, colique pars superior fæcibus benè coloratis repleta, nullum gangrænæ vestigium præbuere.

Coli partem inferiorem unâ cum aliquâ recti portione adeò contractam inveniebam, ut digitus minimus haud facilè inferi posset. Tunicæ tam densatæ, ut muscutorum, potius quam membranarum, speciem exhiberent, et multis in locis itâ coarctatæ, ut excrementi vix ullum appareret vestigium; portio exigua in hoc toto spatio compressa, subalbida, sevo ovino haud absimilis, perquàm dura, et lateribus intestinorum firmiter adhærens.

Jecur, renes, vesica urinaria et reliqua omnia sana.

His rite perpensis, nemini harum rerum
perito

perito dubium esse potest, cui parti, cuive causæ malum attribuat. Quare clysteres, et medicamenta cathartica quotidie sine successu repetita fuerint, liquido satis constat. Portio mercurii longè maxima ad coli partem inferiorem supra dictam viam sibi fecerat; ulterius verò progredi, ob insuperabilem obstructionem (intestinorum scilicet contractionem, contentorumque duritiem) neutiquam permittitur. Hinc, descensum per alvum non concesso alvi fæces per os rejiciuntur. Ex hac obstructione, visceribus proculdubio orta est inflammatio; inflammationi necessario subsequuta est gangræna, quæ per magnam partem tubæ intestinalis serpens, mortem ægro attulit. Vomitus non tam frequenter accidisse, quam in hoc malo plerumque occurrit, animadversione satis dignum. Rationi non minus hoc quam cætera consentaneum. Venter a loco affecto longè remotus, in actionem haud ita facile stimulatur, ac si vitium in jejunio vel ileo fuisset situm. Eadem, quæ hic enumerata sunt, symptomata, iliacæ affectioni ab omnibus ferè tribuuntur scriptoribus; quos verò, quoad causam, sedemque mali, haud parum a præsentibus dissentientes inveniemus. Ilei enim originem in tenuibus intestinis consistere

fistere plerique contendunt, et, in morbi definitione, motum inversum asserunt; in hac autem ilei specie, crassa, non tenuia, intestina ab initio affecta fuisse, satis patet; sed neque in his, neque in illis apparuit inversio. Causa diversa, idem tamen effectus.

VALE.

ARTICLE

ARTICLE III.

A CASE of POLYPUS UTERI;

BY A CORRESPONDING MEMBER OF THE MEDICAL
SOCIETY.

Read DECEMBER 23, 1794.

A WOMAN thirty-one years of age, miscarried in March 1791, when six months advanced in her pregnancy. At the expiration of three weeks, she was able to follow her usual employment; and continued to enjoy a good state of health for the space of three months; when a violent flooding was occasioned by her carrying a heavy load. This hæmorrhage, as well as an occasional discharge of coagula, attended with great debility, frequently returned, at irregular intervals, during the course of the following winter and spring.

In May 1792, whenever she was in an erect position, a small whitish tumour appeared at the os externum, which she found it necessary to push back, whenever she made
water.

water. About three weeks after, the tumour became so much enlarged, that she could not make it recede; and, in a short time there appeared, on the outside of the os externum, an enormous body, of a dark livid hue, of a very putrid smell, and of a size nearly equal to a bullock's heart. This state of the complaint was attended with continual thirst, want of appetite, and sleep.

From the use of fomentations and poultices, large floughs took place; the size and offensive smell of the tumour were much diminished; and it acquired a firmer texture, and the colour of flesh. Her general health also was in some degree improved. The tumour still continued as large as an infant's head, and approached somewhat to an elliptical form. Its surface was rather irregular, and was constantly kept moist by mucus. The pedicle was more equal in its surface, and more yielding to the touch: it was about an inch in length, and six inches in circumference. The tumour itself was indolent; but by its weight and pressure occasioned pain to the parts with which it was connected. She was at times troubled with diarrhoea and night sweats.

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The foregoing case was communicated to the Medical Society, as a case of inverted uterus. On receiving an answer from the Society, containing the opinion of such members as were present at the perusal of the paper, the author was convinced of the error into which he, as well as several other medical practitioners in his neighbourhood, had fallen respecting the disease. The death of the patient, which happened soon after, proved to demonstration, that this opinion was well founded.

The tumour was then much reduced in size, of a dark gangrenous hue, and when divided with the knife, proved to be a firm fleshy substance. The bladder was rather scirrhus: the uterus was in a very prolapsed state; the cervix being drawn down far without the labia pudendi, by the weight of the appending tumour. What therefore appeared as the neck of the tumour, consisted of the uterus, covered by a portion of the vagina.

No hæmorrhage occurred subsequent to the descent of the tumour. The os uteri was not to be discovered during the life of the patient, and after her death was not well ascertained. The polypus was attached to the whole

whole mouth of the womb; or, if there were any detached parts, the vagina also was so connected with the polypus, as to give such an appearance. This was one circumstance which occasioned the complaint to be mistaken.

The candid and ingenuous manner in which our correspondent acknowledges the mistake made by himself and others, and his readiness in consenting to the publication of the case, for the sake of humanity, entitle him to the warmest thanks of the society. Although this paper affords no information with respect to the cure of any disease, yet it holds out a serious warning to every member of the medical profession, to investigate the nature of diseases with all possible care, in their early stages. When the complaint here described, is discovered in time, the remedy is easy and well known; when it is misunderstood and neglected, it is likely to terminate a miserable existence by a painful death, as happened to the unfortunate subject of the present memoir.

ARTICLE IV.

Of certain morbid Affections of the Uterus.

By J. C. LETTSOM, M. D. &c.

Read MARCH 30th, 1795.

CASE I.

MARGARET RACKALL, thirty-six years of age, was delivered of a dead child on the 26th of January 1791, in the sixth month of her pregnancy.

Prior to this event, she had been troubled with a cough for some months, and it continued in much the same state since she took to her bed. Early in the above month, she had symptoms of fever, which had been augmenting till the time of my attendance, which was on the 10th instant, though on the 9th, I was informed, there came on a chilliness of the extremities, which was succeeded

ceeded by fever, terminating in a sweat; the whole formation of the paroxysm lasted four hours, and returned in the same manner fourteen hours afterwards. She had also laboured under a diarrhœa for some days, and the evacuations were extremely offensive. A nausea likewise distressed her, on which account a vomit had been taken the day before. The pulse was at this time 130. The urine for the space of three days had deposited a lateritious sediment, and she had even begun to take the Peruvian bark.

The languor was indeed extreme; the countenance appeared contracted and melancholy; aphthæ had appeared, though in a degree.

I ordered a drachm of bark to be taken every two hours, with three drops of thebaic tincture in each dose, to ease pain and prevent a diarrhœa.

Jan. 11. She had a severe rigor, and violent hot fit, and sweated considerably; there was neither pain nor tumescence of the abdomen. After this paroxysm the same medicine was ordered every hour, with only the occasional use of thebaic tincture. The legs and abdomen were fomented with the

common fomentation. The diarrhœa did not return; the urine deposited a copious sediment. In the night she had a more violent rigor, which was succeeded by very trifling heat, but soon ceased, and she expired in cold clammy sweats.

DISSECTION.

On the next day W. Norris opened the abdomen: the omentum appeared to have been drawn out of its natural position, and was closely tucked under the intestines on the left ileum; but this part, as well as the intestines and the abdominal and thoracic viscera, were in a sound state, except the os tincæ of the uterus, where a sphacelus had taken place, and extended about half an inch.

CASE II.

The first appearances of indisposition of M. L * * were, a sense of weight and of bearing down forwards, with a frequent desire to make water, and a dull, sometimes a shooting pain, of the vagina: constipation of
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the bowels gradually increased, and at length, an uneasiness in passing stools.

My attendance was requested in the month of June 1791, after she had laboured under these complaints full three months. About three years before she was delivered of an healthy child, and recovered without the intervention of any particular incident, till the present period: she was even now about the house as usual, but found exercise so fatiguing as to conclude keeping within doors.

The menses appeared twice or thrice in the month in small quantities, attended with acute pain in the pelvis, and a sense of forcing forwards and downwards, as if a large body were descending: that she was costive has been remarked, and now the stools in passing excited the same pain in the pelvis. For a week or two before I visited her, she had had rigors, and sometimes a hot fit resembling an intermittent; these came on at irregular periods, two or three times in the week, and at length every day, sometimes twice a day, or every other day; but the Peruvian bark, which she took freely, appeared to have no effect on these paroxysms.

I imagined at the first, that there might

be some morbid affection of the coats of the bladder, and ordered a combination of cicuta, opium and calomel; but this affording no other relief, than what might result from the opium alone, it was given without any addition.

The patient having at length consented to be examined per tactum, the result ascertained the disease to exist in the uterus; the os tincæ was found enlarged and thickened, and of a scirrhus hardness. The following plan was then adopted.

R. Arsenici albi pulv. gr. xvj.

Salis nitri purif. gr. xxxij.

Coque in vase vitreo cum aq. distill. ℥iv. donec arsenicum penitus solutum fuerit; dein adde Spirit. lavend. comp. ℥ij.

Aq. puræ ℥v. ut sit mensura ℥viijss. et facta unica ebullitione filtrentur ℥viij.

R. Hujus solutionis gutt. xij.

Aq. menth. sativ. ℥iss.

— Cort. Aurant, Spirit. ℥iss. ft. Haust. augendo sensim dosin solutionis usque ad gutt. xvj.

Of the draughts she took one three times in the 24 hours, and continued them for the space of a month. Of opium she took from five to ten grains every day, and sometimes even

even twelve grains. Pain and debility however increased; the appetite failed; frequent vomiting ensued, and accelerated the debility, and she expired three months after my first attendance.

C A S E III.

ELIZ. FARROW, a widow about 50 years of age, who had passed the time of menstruation, was first indisposed in the month of January 1791; the principal complaints at this time were, a tendency to nausea, sometimes excited to vomiting; and, a difficulty in making water, accompanied with more or less pain.

These continued in different degrees of violence till the 24th of the following September, when I was consulted. The patient kept a public house, but had the character of being temperate; her complexion, however, was inclined to swarthy, which led me to suspect she had occasionally used spirits, especially as her appetite for food had greatly diminished, and what little she did take, was often ejected: there was likewise a fullness about the scrobiculus cordis, which

strengthened my suspicion of bilious congestion. The pulse was weak, but not irregular. The pain which she originally had in making water, was still distressing; she explained the forcing pains as like those of labour, with a shooting acute uneasiness, during and after micturition, up the vagina. She was never free from some sensation of load or pressure about the perinæum. This irritation to make water frequently waked her in the night, and compelled her to attempt its expulsion, though little was discharged, but always with pain. The sediment or mucus was that kind which occurs in cystorrhœa, though higher coloured than is usual.

As the pain seemed particularly to center about the scite of the bladder, I suspected the symptoms might result from its morbid state, and the vomiting from bilious congestion: there were however other symptoms, that excited a doubt of the supposed seat of the disease.—The patient had some irregularity in going to stool, and consequent pain, that did not appear connected with the state of the bladder.

When I first attended, she was in general costive, with intervals, however, of the contrary

trary state, and under an opinion of bilious congestion, I prescribed laxative remedies, hoping that by soliciting evacuations through the rectum, the vomiting would be relieved, and the appetite and strength thereby improved.

Although plentiful evacuations were procured, the vomiting was not relieved, and the lancinating pains of the pelvis continued to increase, which induced a suspicion of uterine mischief. On this account W. Norris was consulted, who, from a careful examination, concluded that there was a morbid enlargement and induration of the uterus.

The patient at this time expressed a strong aversion from medicine, although her pain and weakness increased; and a diarrhoea frequently occurred. However, she occasionally took anodynes to mitigate her sufferings, of which she was finally relieved by death on the 26th of October, when she was opened by the surgeon, accompanied by T. Lane, her apothecary who visited her throughout the disease.

DISSECTION.

DISSECTION.

On opening the body the liver was found of a smaller size than usual, of a light greyish colour, and of that degree of hardness which might be termed scirrhus. The duodenum, particularly that part of it which is contiguous to the stomach, was inflamed. The uterus was somewhat enlarged, and very hard through its whole substance; and, from its fundus externally, immediately under the peritonæal coat, there arose a tumour about the size of a common walnut: in this tumour, which was of the steatomous kind, besides the usual contents, there was a thin plate of bone, which had a number of sharp ragged points, that pierced its investing membrane, and might account for the inflamed state of the small intestines in contact with it, for which no other obvious cause could be discovered.

From many of the symptoms first described, some affection of the bladder or urethra, had been suspected, but in these, and all other parts, except those already mentioned, no disease whatever appeared.

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The cases I have cursorily related, came under my observation in the year 1791. I have since attended many similar instances, with various success, but I have not seen one fatal case since, ascertained by dissection. When any unfortunate event has succeeded our practical treatment, it becomes us to retrace the whole state of the disease, and to consider under similar appearances, should they ever again occur, whether any other mode of treatment might be rationally adopted.

With respect to the first case, at the period of my attendance, I cannot conceive that any other plan merited preference: from the violence of the paroxysm she had just merely survived, I expected that the next would certainly prove fatal. I have in some cases, aided the immediate effect of the bark, by giving it likewise in clysters, with manifest advantage, especially when it cannot be taken in sufficient quantities by the mouth, or is ejected from the stomach.

Were a case similar to the second again to present, I should adopt a different treatment. I have since frequently seen uterine affections resemble intermittents, and in no one instance

stance has the bark afforded relief, but it has often proved injurious.

Indeed, so far from administering tonics, I should give relaxants and evacuants; but on the general treatment of similar diseases I shall revert in a subsequent page.

In any acute affection of the uterus arsenic must be pernicious; and, as to its exhibition in scirrhus or chronic diseases of this viscus, I conclude, from the experience I have had, that it affords no benefit; and, as it is a mineral of dangerous powers, in unskilful hands, it ought to be interdicted in the complaints I have described.

I lament that I did not treat this patient in a mode I have since found so salutary; whether she would have been cured or not cannot now be ascertained, but I think, she might have enjoyed a prolongation of life, and, with a degree of comfort.

The third case appeared by dissection to be a good deal complicated, and, as the patient was not disposed to adopt the very aid she asked for, no plan could be carried into execution, and probably, from the high state of disease, no remedies could have availed.

It

It is a melancholy addition to the catalogue of female miseries, that the uterus is a part which frequently becomes the seat of excruciating torment.—Sometimes it becomes extremely diseased by a scirrhus, ulcer, or cancer, and yet the patient shall drag out a long, though painful, existence. Other instances of apparently trifling affection of this viscus, shall not only be attended with acute suffering, but likewise succeeded by early fatality: probably, however, were the primary symptoms attended to, and that state of distress and pain which is connected with the first stage of morbid turgescence or inflammation, much of the subsequent mischief would be obviated, and health restored; in which I am confirmed by numerous examples which have lately come under my observation.

As the pelvis contains parts frequently affected, as well as the uterus, it is first requisite that the disease be duly characterized and ascertained. This viscus is situated between the rectum and bladder, both liable to morbidity, and to pains not very dissimilar to those resulting from the uterus.

When the rectum is affected either with
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the hæmorrhoids or scirrhusity, the uneasiness is more particularly perceptible in the neighbourhood of the rectum, or at the anus. The former disease shews itself frequently either by the discharge of blood, or, some external fulness about the anus; at the same time the constitution of the patient is rarely impaired by it, and sometimes experiences relief; and, should any doubt remain, the disease itself may be ascertained by the touch. Occasionally there is some uneasiness or difficulty in micturition, but not often; and, when it does attend, it is trivial. The pain in going to stool is more exquisite; so it is in the scirrhus rectum: but in this latter affection the needing to stool is more violent, and, the fæces never pass without being contracted, so as to shew they have been discharged through a very narrow aperture; they are generally thin, spitting, and frequent, and, the constitution becomes more disordered than from the hæmorrhoids; difficulty of making water is not indeed always a concomitant; and lastly, it may be ascertained by examination; so indeed may most diseases of the uterus, but patients reluctantly submit to this criterion.

Affections of the uterus are not restricted
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to any particular age, it is usually, however, about the commencement of the menses, and their cessation, and occasionally, in any part of the intermediate time, and not unfrequently after gestation, in consequence of some change brought on in the system of the uterine vessels; but in such cases it is probable that a morbid disposition in the uterus had previously existed, and which, perhaps, would have shewed itself in some period of life independently of parturition.

The morbid affections of the uterus, whether arising from active inflammation, chronic enlargement, or scirrhusity, are attended with a concatenation of symptoms sufficient to distinguish them from affections of the rectum or bladder, though in some measure the symptoms of both. I know of no other viscus that combines that peculiar sense of load about the loins; that bearing down forwards and backwards; that dull pain of the upper and internal parts of the thighs; that throbbing uneasiness after going to stool, and, pricking sensation up the vagina and urethra after making water; that disposition to nausea and vomiting of mucus, with flatulence of the lower belly limited to no part of the

8 day;

day; and besides, a discharge by the vagina, sometimes green or yellow, sometimes bloody or foetid, always different from the fluor albus, and, always with pain from external pressure on the abdomen. In women attaining puberty, of a scrophulous habit, affections of the uterus are apt to occur; but, in general, more frequently a little before or after the cessation of the menses. In young women should the menses not appear, or, when appearing, in small quantity, with a chlorotic complexion, even were many of the complaints above mentioned to exist, I should rather ascribe them to an indolence of habit, which required chalybeates, deobstruents, and other means of strengthening the constitution. The morbid symptoms that indicate scirrhus or inflammation, are prevalent only in a very different state of constitution; there is usually rather a florid than a chlorotic appearance, and, the bearing down and lancinating pains are not present in chlorosis, nor the uneasiness in making the excretions.

In general persons subject to the dangerous affections I have described, are those who have been liable to much pain before, and at
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the time of, menstruation, and to a profuse discharge, rather than to a diminished quantity. These circumstances have attended for many years before complaint has been made, and the sex is apt to ascribe such pains to the natural constitution connected with the menses, rather than to any morbid state of it, till at length weakness and agony have convinced the afflicted object of the necessity of medical aid; that aid, however, if not too long postponed, may, by prudent application, be productive of future relief and comfort.

Were the uterus really in a scirrhus state, perhaps little more could be expected than palliatives; but, as I have seen all the symptoms described really present themselves, and removed by medical aid, before the scirrhus state be actually confirmed; and I conceive, in general, there is so much pain, that the patient would be compelled to ask assistance previously to this confirmed malady, at the same time there is abundant encouragement to attempt the means of cure, and these means are so simple, as to require very little illustration.

I consider, that in all these cases there is

more or less of inflammation present, and, in general, bleeding from the arm may be occasionally premised; the repetition and the quantity will depend upon the appearance of the blood, the degree of pain, the strength of the patient, and the state of the pulse: the two latter are, however, very deceptive, as the disease, in the first place, requires much confinement to the bed or couch, which soon induces a specious debility; and the pulse is generally weak, though frequently quick. But the evacuation I lay the most stress upon, is local or topical. I would advise from four to six leeches, to be applied either a little above the os pubis, or to the perinæum, and these should be repeated every second or third day, if the pain and other symptoms of uterine affection persevere. In an instance lately under my care, besides three small bleedings by the arm, the patient had eight times six leeches applied as above directed.—This plan, with other antiphlogistic means, preserved an excellent woman to society, who, otherwise, I have sufficient reason to conclude, would not at this time have been in existence.

If the patient should suffer extremely, the
8 pain

pain may be mitigated by injecting a solution of ten grains of opium into the vagina, or by a common anodyne clyster per rectum. From the mode of treatment I have suggested, it will obviously occur, that the bowels should be kept laxative, by the most emollient means, such as castor oil, manna, magnesia, or rhubarb. Every stimulating cathartic should be avoided, and, in general, salts prove stimulant in this disease; lenient clysters may occasionally be injected, which act not only as a laxative, but likewise as an internal fatus. In like manner external fomentations have considerable benefit, and particularly after the application of leeches, the bleeding from which they tend to promote.

A blister may be applied to the lower region of the abdomen, as well as the perinæum; they are not apt to produce strangury, and tend to divert uterine inflammation.

I did formerly expect benefit from the use of cicuta, but have not observed any salutary result from experiment.

Mercury should not be given during the inflammatory state of the uterus, and I have no experience of its good effects afterwards.

If it were to be tried, I should prefer the mercurial ointment rubbed upon the perinæum ; nor do I know whether or not issues to the thighs would prove useful.

After the patient is relieved, periodical bleedings in the arm, and more especially local ones by leeches, as before recommended, should be continued for some months, to take off the determination of blood to the uterus.

Mild, soft, cool diet, and sippings not of a heating tendency, should be long persevered in. A decoction of sarsaparilla, with cow's or ass's milk, has been drank with long perseverance, and apparently with advantage,

ARTICLE V.

*Case of Hæmatocele, with an Account of the
Efficacy of the Zanthoxylon.*

BY JOHN HARRIS, M. D. C. M. S. KINGSTON,
JAMAICA.

[Communicated by Mr. W. CHAMBERLAINE, F.M.S.
and Secretary to the MEDICAL SOCIETY.]

Read DECEMBER 1793.

A GENTLEMAN, aged 40, in consequence of a fall from his horse, received a blow on the spermatic chord, where it passes over the angle of the pubes. Shortly after the accident, a tumor arose on the part where the injury was received, and the scrotum was enormously swelled and painful. The case, at first, was mistaken for prolapsed omentum, and afterwards for a scirrhus testicle. It was not until the disease had continued some time, the scrotum, highly inflamed, had put

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on a gangrenous appearance, and the patient's health had been considerably reduced, that Dr. Harris first saw him.

There was at that time an evident fluctuation, attended with a kind of hardness; which made him anxious for a consultation with another practitioner, and Dr. Heney, of St. David's, was called in.

It was agreed to puncture the tumor with a trocar; but nothing followed except a few tea spoonfuls of bloody serum, and grumous fetid gore. The patient's strength being very much reduced, the bark was given in doses of ʒj, every hour, and a seton passed from the wound downwards as far as could be done with safety to the testicle.

This not answering, the two orifices were laid into one by the knife, which gave vent to a very large discharge of intolerably fetid grumous blood.

The tunica vaginalis was three quarters of an inch in thickness, and totally insensible to the knife.

A considerable and obstinate hemorrhage followed, which, however, at last yielded to the application of Ruspini's styptic.

The wound not healing as could be wished for,

for, by the common dressings, the powder of Zanthoxylon was proposed as a dressing by Dr. Harris, who had before seen many pleasing instances of its antiseptic qualities, and had experienced its efficacy in a variety of obstinate and ill-conditioned ulcers. This was agreed to by Dr. Heney, who also was well acquainted with its utility.

Accordingly, a dofil of fine lint, armed with a digestive, was rolled in the powdered Zanthoxylon, so as to take up as much as possible, and introduced into the cavity; this was done twice a day, after syringing with a strong infusion of the powdered Zanthoxylon in boiling water; in two or three days the gentlemen were most agreeably surprised at the antiseptic power of that bark, for the fetor, which was before intolerable, was not only corrected, but the scirrhus sides of the tunica vaginalis became every day softer, and recovered their sensibility, discharging a laudable pus. The Peruvian bark, and wine, were freely prescribed, and the patient rapidly recovered, the testicle being reduced to its natural size and power.

APPENDIX

TO THE FOREGOING ACCOUNT.

By W. CHAMBERLAINE, SURGEON, F. M. S.

A botanical account of the *Zanthoxylon*, with an accurate drawing of it, and the history of several cases in which it had succeeded beyond expectation, Dr. Harris assures me, he committed to the care of a confidential friend, to be delivered to me for the purpose of being laid before the Medical Society; but the ship by which these articles were sent was captured.

The part used is a powder from the bark of the root of a tree, which, from specimens of the root now in my possession, and from every other document, appears to be that called Prickly Yellow Wood, or Yellow Hercules, much used for making the heading of sugar hogheads, for bedsteads, and many other purposes, in Jamaica; it is a tall, straight tree, easily distinguishable from all others, in appearance not greatly dissimilar to our ash; the bark of the trunk is thickly beset with
prickles,

prickles, which, in the young trees, are pointed, but obtuse in the more aged. The wood is of a very bright yellow colour, whence its name *Ξανθοξύλον*. The flowers, which bear some resemblance to the *Cassia fistula*, are succeeded by a pod, flattish, and not much unlike in shape and size to a man's thumb; this pod is at first green, then red, and lastly turns black when ripe, and contains three or four compressed seeds.

It is called by Browne*, *Zanthoxylum foliis oblongis obovatis pinnatis et leviter crenatis; floribus racemosis, candice spinoso, ligno subcroceo*.

Dr. Harris, by a former ship, sent me a small box of the powder, which I have had opportunities of trying in three or four cases of very bad ulcers of the legs. In the first I had attended the patient from January to July with very little success; but, on changing the dressings for the powder of *Zanthoxylon*, an almost immediate alteration took place; the wound was quite healed up by the end of September, and the patient has continued ever since perfectly well.

* Nat. Hist. Jamaica, Sect. 4. *Pentandria Pentagynia*.

My second patient had been in an hospital six weeks in May and June, and was discharged cured, but the ulcer soon after broke out again, and continued to increase to the extent of five inches and a half in length, and four in breadth, which were its dimensions when I was first called to look at it; I ordered that it should be fomented, and, after washing it with milk and water, sprinkled the powder liberally all over the surface of the ulcer, and covered the whole with plantain leaves, rejecting all greasy ointments. This was persisted in twice a day, and a cataplasm of bread and milk laid over all at each dressing. Internally she took hydrarg. cum sulph. & nitr. $\overline{aa}$ gr. xv. bis die. In a week the ulcer was less than half its former size, looked perfectly clean, and put on every appearance that could be wished for, and soon became perfectly well.

A poor woman had one of the worst ulcers I ever saw; she was very much reduced through want of sleep, from the excruciating pain caused by the ulcer, which she suffered night and day, without intermission. I gave her some of the Zanthoxylon powder, and instructed her how to use it. In five days

days she walked to my house, and was able to come every morning to be dressed. I gave her no medicines, and enjoined no regimen, but the leg was perfectly healed, by the application of the Zanthoxylon alone, in a month, and she now follows her business of a laundress, no vestige of any ulcer remaining except a little redness.

On the Efficacy of the Zanthoxylon.

BY THOMAS HENEY, M. D. OF ST. DAVID'S,
IN THE ISLAND OF JAMAICA.

[Communicated by JOHN HARRIS, M. D. of KING-
STON, JAMAICA, C. M. S.]

Read JANUARY 20th, 1794.

To Dr. HARRIS.

DEAR SIR,

St. David's, Sept. 12, 1792:

I REGRET that the limits of a letter will not give you a minute account of the success of my experiments with the Zanthoxylon. The first intimation of its virtues I owe to you ; and at the same time witnessed its surprising efficacy in the case of Mr. G—n's hæmatocele. However strong my reliance on your account of it at that period, and on the conviction of my own senses in Mr. G—n's case, yet the deceptions practised in the world by the exaggerated accounts of the
cicuta,

cicuta, the *flammula jovis*, the *arnica*, the *digitalis purpurea*, and others, by authors of no inconsiderable name in the medical world, had infused so large a portion of the sceptic through my medical creed, that I determined nothing less than repeated *autopsia* should convince me. I therefore instituted my experiments with as unprejudiced and candid a mind as ever a son of Hippocrates did. I must sincerely own, I lost sight of the warning of that great master, "Experimentum periculofum;" but never of the preceding text, "Judicium difficile," until, by repeated experience, I had the fullest conviction of its efficacy, in numberless cases, and principally those I shall mention.

You well know how difficult it is to bring the foul ulcers, to which the unhappy children of Africa are in this climate subject, to such a condition as promises a speedy cure, particularly such as are attended with loss of substance, and how frequently we are obliged to have recourse to the unpleasant use of escharotics to remove those fungous excrescences which the habitual nastiness of the negroes, and the irritation of insects, (which in tropical countries inhabit every broken particle

particle of animal and vegetable substances) produce.—To remedy the inconveniencies arising from these causes, I determined to make trial of the Zanthoxylon, in manner and form as we had done in Mr. G—n's case. I therefore laid aside the tinctures of myrrh and guaiacum, Hungary water, phagædenic water, lime water, and every other usual application, and commenced the use of the Zanthoxylon by bathing the ulcers with the decoction of that bark, and intermixing it with the dressings.

For the purpose of more minutely ascertaining its efficacy, I confined the patients thus treated, in the same place with others whose ulcers were of the same date and condition, and whom I treated with the lotions, dressings, and poultices, in common use.

In addition to the external use of the Zanthoxylon, I ordered a couple of ounces of its bark to be boiled with the sarsaparilla, in lieu of the *lignum vitæ*, for their drink.

The ulcers of my Zanthoxylon patients, in the course of a few days, invariably threw off the sloughs and other foul appearances, and exhibited healthy and well-coloured granulations beneath, discharging laudable and well-

well-conditioned pus. Their co-patients, whether treated with mild, emollient applications, or with stimulant dressings, exhibited, in their several situations, such slow appearances of amendment, as finally urged me to use the Zanthoxylon to all.

A negro woman, who had been affected for many years with several large phagædenic ulcers, from the mid-thigh to the ankle, was put under my care. A fetid sanious discharge, together with fungous and almost gangrenous excrescences, had given to the ulcerated surface so horrid an appearance and stench, as was highly disgusting to every one who saw or approached it, and intolerable to the wretched patient herself.

For six weeks after the first inspection of the ulcers, escharotics, warm stimulating dressings, tight bandages, were tried to no purpose. In place of these, I commenced the use of the Zanthoxylon, by bathing the sores with the decoction, intermixing the powdered bark in the dressings, and giving the bark in decoction, in the place and proportion of the lignum guaiacum; the events answered my expectations, the discharge soon acquired the condition of laudable pus; well-coloured granulations,

granulations, in the happiest form, appeared, and saturnine ointments finally effected the cure in eight weeks. Numberless were the experiments made by me and my assistant subsequent to this in similar ulcers, with equal success. In every instance, however, of venereal taint in yaws, or crab yaws, I found it ineffectual, prior to the use of mercurials.

I some time ago mentioned to you a few successful experiments made with a view to determine its antefebriile qualities, by administering it in the same scope and indication as the Peruvian bark. Repeated trials have, however, since that period convinced me it is much more inactive than that celebrated febrifuge, unless its virtues are sharpened by the addition of some neutral salt or alkaline; then it really exhibits virtues little inferior to the China-China, and is unattended with the inconveniencies usually experienced from the latter. This I account for by supposing its resinous parts to be rendered more readily miscible with the aqueous juices by the addition of the salt.

Another most singular quality the Zanthoxylon possesses in an eminent degree, which, I presume,

I presume, you are unacquainted with, and to the knowledge of which I was accidentally led. A short account of the discovery will best explain it, and, at the same time, indirectly argues this salutary plant not to be a native of Jamaica.

Mr. Crofdale purchased two negro wenches in the beginning of the present year; the younger of whom, at different times since, has been afflicted with a dry belly-ache, or colica pictonum. About two months ago she was seized with it in so dreadful a degree, that every effort to remove the spasmodic constriction of the bowels, and procure some motions, proved ineffectual. To no purpose were emollient fomentations, anodyne, or cathartic glysters, mild and drastic purges, castor oil, and ultimately, blisters to the abdomen, applied. That horrid symptom, a *vomiting of the excrements*, commenced, and banished every ray of hope. In this situation she desired to have her sister with her, who, on seeing her deplorable condition, signified a wish of giving a nostrum communicated to her by their mother, and employed to cure herself, on a similar occasion, in Africa. I readily complied with the request. In the

course of two hours, she returned from the woods with the root and flowers of some plant, pounded together in a calabash. Two spoonfuls of the expressed juice of this she gave her sister twice, at an interval of two hours each. The first effect of this was a tranquil profound sleep of twelve hours duration, during which the pulse and breathing gradually returned to the natural state; after this, all sense of pain, and every bad symptom, disappeared, and no other inconvenience did she experience, save debility and slight soreness, from the passing of the purgative medicine, which came away especially during the course of the following day. The sister was observed to boil the ingredients (after expressing the juice) in a large quantity of water, and give it on the following day as common drink. No reward or menace could induce her to discover the plants until stratagem brought it to light. We induced another negro to dissemble a similar complaint, and prevailed with the wench to seek for, and prepare the same cure; in complying with this request, we had her so narrowly watched, as to discover the secret to be the fresh root of the *Zanthoxylon*, in its infant state, intermixed

termixed with the saffron coloured flower of the wild sage; which last, I have since found, to contribute nothing to its virtues. Having procured some of the sappy and smallest roots of the young trees, and expressed the juice, I began the experiment of its qualities on myself at tea-spoonful doses. From the first of these, I found no other effects than an unusual flow of spirits. By continuing the dose, drowsiness, nausea, head-ache, and, at length, sleep, ensued; from which I however awoke next morning perfectly refreshed, and had three copious easy motions. I preserved some of the juice with rum, and some with syrup. These preparations, as well as the juice, I have frequently since that period administered in complaints of the bowels (so frequent among the African race and their progeny) with every wished-for success. On the estate of Mrs. O'Bryan, an old man of 80 years was lately seized with convulsive fits every hour, in every character similar to epilepsy, which continued, without intermission, twenty-four hours. To him, on being sent for, I immediately gave a wine-glassful of the juice preserved in rum; the fit which succeeded the first glass was unattended with

strong convulsions, and the second was little else than a comatose state; after which, a sound sleep of ten hours removed every appearance of disorder except lassitude.

This last mentioned antispasmodic virtue the Zanthoxylon loses by being dried and powdered, its narcotic qualities being dissipated with the moisture of the plant.

These are the chief remarks my opportunities and leisure have hitherto enabled me to make on the Zanthoxylon. I shall continue to give it every candid and fair trial, and, from time to time, will send you the results of my experiments. Some other vegetables have fallen under my inspection from negro information, and I have really found much satisfaction from their use. My botanic information is too limited to attempt their description; yet, as soon as I learn it, you shall also know them and their virtues.

I remain,

Dear Sir,

Your obliged humble servant,

THOMAS HENEY.

ARTICLE

ARTICLE VI.

TO THOMPSON FOSTER, Esq. F. M. S.
SURGEON TO GUY'S HOSPITAL.

Read MARCH 23, 1795.

DEAR SIR,

*Cley, next the Sea,
Feb. 16, 1795.*

AT your request I have annexed a statement of my unfortunate friend's case, which I have endeavoured to make as accurate as possible. If, in your opinion, its publication will any way contribute to the benefit of society, I shall certainly not withhold my consent, but leave you in that respect to act as you may think proper.

I am, dear Sir,

Your obliged, and faithful servant,

THOMAS ERRATT.

E 3

Mr.

Mr. THOMAS D——, of G——, in the county of Norfolk, whose sufferings ended in death, on the 3d of November 1794, at the age of twenty-seven, had, from childhood, experienced symptoms which usually accompany a stone in the bladder. These gradually increased in violence, and, at length, became so intolerable as to induce him to apply for advice to an eminent surgeon, whose practice in stone cases was very considerable. He was under this gentleman's care for some time, and was repeatedly examined; the result of which was almost a conviction that there was no stone in the bladder. He was put upon a course of mercurials and cicuta; used bougies, and, I believe, other medicines, without any benefit. Upon taking leave, he was requested to try the effect of the aërated alkaline water. With this he complied, and, in the course of a few weeks, derived evident advantage from its use. By degrees all his painful symptoms left him, the bladder suffered its natural accumulation of urine to take place without any painful sensation, and discharged its contents free from difficulty or interruption. In this happy state he continued near four years, taking occasionally

occasionally the saturated water; and, in pursuit of his favourite field amusements of hunting and shooting, he often underwent the greatest bodily fatigue without inconvenience. It was not until the harvest of 1793 that the symptoms recommenced, on his becoming very wet while in a sweat. From that period to the beginning of the February following, he was under the care of a medical friend of mine, from whom he experienced some relief. It was at this time my first attendance on him commenced, and opportunities occurred to me of marking particularly the symptoms and progress of the disease. His strength was much reduced, appetite extremely bad, body costive; he was also troubled with tenesmus, and an almost constant inclination to make water, which he passed in small quantities with intolerable pain. His urine was thick when made, very fetid, and deposited a sediment of a purulent appearance. The four years perfect freedom from any of these symptoms, or any inconvenience arising from the strongest exercise; the probable conclusion that might be drawn from the examinations of a surgeon much in the habit of sounding patients for the stone;

and the subsequent intervals of ease, returning strength, and perfection of the ordinary functions of the bladder, were, in my opinion, strong circumstances against the presence either of a stone, cancer, or of any organic affection. With these impressions on my mind, the present case struck me as an instance of a local morbid irritability; and, recollecting Mr. Cline's recommending the *tinct. ferri muriati*, in partial spasm, I gave the preference to this tonic, and exhibited it in doses of ten drops, three times a day, enjoining its increase as the stomach would bear it: to which I added a draught containing a drachm of *sp. æther. vitriol.* five and twenty drops of *tinct. op.* forty of *tinct. castor.* with pennyroyal water, every night at bedtime; and some laxative pills, with *pilul. ex aloe cum myrrh.*; containing also *pil. e gummi camph. et castor*, before each dose of the drops. The apparent effects of this plan were, considerably better nights, a rapid return of appetite and strength, a total cessation of pain, regular state of the bowels, a retention of the urine in its natural quantity, without any obstruction in discharging it. This flattering change continued to increase

crease our hopes of a perfect recovery for three weeks, during which period, notwithstanding the absence of the symptoms, the medicines were regularly continued. We found ourselves, however, too sanguine, for now a degree of uneasiness about the region of the kidneys, and in the bladder, attended with a sense of heat in these parts, came on; the appetite gradually fell off; some catarrhal affections (which we afterwards observed generally preceded the violence of the paroxysms) were likewise present, and the whole train of symptoms already mentioned followed. In so critical a situation I did not choose to trust entirely to my own judgment, and a physician was called in. He prescribed such a plan of treatment as was likely to lessen the morbid irritability of the bladder, procure ease, and support the powers of the constitution, which, from the severity and repetition of the attacks, were evidently declining. At the end of about a month the violence of the symptoms began again to abate, the appetite returned, and he rapidly recovered. Scarcely, however, had a fortnight elapsed, before a fresh attack took place; which was longer in duration, and accompanied

accompanied by greater debility, loss of appetite, strength, and flesh, than either of the preceding. The surgeon who was originally consulted, and had searched him for the stone, was now sent for. He concurred in the opinion we had formed; but, having upon an examination felt through the integuments a hard body just rising above the pubes, it was concluded that a thickening of the coats of the bladder had taken place in consequence of inflammation. The plan we were pursuing was therefore changed, and emollient and cooling medicines were substituted. These were administered two or three days; the strength sunk very fast, and the pain, if possible, grew more urgent, so as to induce us again to have recourse to the former medicines. He soon got better, and enjoyed a longer interval than hitherto from his symptoms; but the absence of these was not so complete, for during this time (which was about three months) he felt occasionally some pain, and his urine was never perfectly free from a sediment, in which there was two or three times the appearance of grumous blood. His appetite, however, was remarkably good, he grew fat, and was so well,
that

that he performed a journey of thirty miles in an open chaise, to pay a visit to his brother, at whose house he stayed a month or five weeks, and returned to G—— by the same conveyance, without suffering any pain or inconvenience.

From this period he had two severe paroxysms previously to his dissolution; the last of which took place in the beginning of October. The symptoms were much the same as on former attacks, excepting only that the powers of the constitution daily became more exhausted, and, at length, after a very severe struggle, sunk under the conflict. On this last attack another distinguished physician was consulted; but, as all that was done was done under an erroneous notion of the true cause of the disease, it would be superfluous to give a particular detail of the treatment. I ought not, however, to omit mentioning one circumstance; that, during this physician's visit, the bottom of the body, where the hardness spoken of before was discovered, was carefully examined, but nothing of the kind could now be felt. I recollect on the first examination he was lying on the sofa in an horizontal position, he now stood
in

in an erect one. Afterwards (the day before he died) it was again distinctly felt through the integuments, as he lay in bed.

APPEARANCES ON DISSECTION.

The left kidney adhered to the spleen by its external membranous covering, which was very much thickened, and diseased. The whole substance of the kidney bore marks of disease; it was considerably enlarged, and filled with small circumscribed abscesses or *vesiculæ* containing thick pus, some of which were of the size of a nutmeg, and had orifices of communication with the infundibula and pelvis. These latter were dilated to twice their natural capacity, and the ureter was so large as to admit the end of my forefinger.

The appearances in the right kidney were similar to those already described in the left.

The fundus of the bladder was found projecting about half an inch beyond the ossa pubis, tightly embracing a hard body.

On cutting into the cavity of the bladder, this hard body proved to be an oval compact stone, irregularly covered with a soft chalky substance.

Its

Its weight was nearly two ounces and three quarters. Near that extremity of the stone which was immediately in contact with the fundus of the bladder, there was a small pointed irregularity, or projection, about the size of a pin's head, which corresponded with an impression, or rather ulceration, in this part of the bladder just large enough to receive it. Around this small ulceration there was a circle about the circumference of a shilling, having the appearance of recent inflammation.

The coats of the bladder were considerably thickened, and that portion which immediately embraced the stone forming the fundus, was so indurated and diseased, as to be, I should imagine, incapable of dilatation.

That space towards the neck of the bladder unoccupied by the stone, (the coats being here in a much less diseased, and more dilatible, state) contained an ounce or two of urine, loaded with pus, which seemed to issue from the mouths of the ureters.

ARTICLE VII.

*On the Application of Spirit of Wine to Burns,
Scalds, &c.*

By THOMAS PARKINSON, SURGEON, AT LEICESTER.

Read FEBRUARY 23, 1795.

To the MEDICAL SOCIETY of LONDON.

HAVING often had occasion to be dissatisfied with the application of oily substances, or even the more powerful applications of saturnine preparations, to parts injured by burning or scalding, I am desirous, by your means, of laying before the public a different mode of treatment, which has proved more successful than that very generally employed; and as it has not only *novelty*, but *facts*, to recommend it, I trust the process I employ will be thought worthy of your attention. Whether I am right in my explanation of the
modus

modus agendi, or not, is not of much consequence; but at present I am disposed to attribute the good effects, which the application of spirit of wine produces, principally to the degree of cold *generated by evaporation*; and, possibly, this may be still further improved by employing vitriolic æther instead of spirit of wine.—The process consists in covering the parts aggrieved with bladder of the greatest tenuity, which is to be kept constantly moistened, for some time, (perhaps twenty-four or thirty-six hours) with alcohol or highly rectified spirit of wine; I find this very generally of sufficient efficacy to prevent, or to *destroy inflammation*; frequently to preserve much skin which has been injured; and, ultimately, to render little more than a mild cerate of wax and oil necessary to accomplish the cure.—I trust this will be fairly illustrated by the following cases.

CASE I.

A young woman, in perfect health, about 21 years of age, fell down as she was carrying a pail full of hot wort, which was spilt over her face, neck, and bosom. I was at
that

that moment from home; but, upon my arrival, I found these parts, as well as part of the abdomen, much inflamed, and in many places blisters had arisen; it was, moreover, accompanied by a painful sensation at the scrobiculus cordis, with sickness. In my absence, which was unavoidably near two hours, between the young woman's receiving the injury and my seeing her, a liniment composed of ol. lini sine igne extract. and extract. saturni had been applied; this was immediately changed for spirit of wine, the injured parts being first covered with thin bladders, which, in order to adapt them with more accuracy to the parts, were first dipped into warm water; to the whole injured surfaces was then applied alcohol unremittingly, with a sponge, so as to produce a constant evaporation. I was highly gratified to find, that the efficacy of this remedy was manifest shortly after it had been employed, for the pain soon abated, the sickness ceased, and the inflammation began to subside: she was easy whilst the spirit of wine was constantly and properly applied; but when the operator slackened in his attention, the pain as certainly returned, but would immediately cease upon

upon the re-application of the spirit.—This process was continued about twenty-four hours, when the inflammation was wholly removed; the excoriated parts, which were much less than might have been expected under such an injury, were dressed with common white cerate, under which they speedily healed.—Somewhat more than a pint of spirit was consumed in this case, during the twenty-four hours it was employed.

CASE II.

A young man, by trade a blacksmith, having occasion to go with a lighted candle to a cupboard where gunpowder was placed, incautiously set fire to this combustible substance; a considerable explosion took place, which instantly drove the window of the room out of its frame, whilst he was scorched in a terrible manner. Having his coat off, his shirt immediately took fire, and contributed, by its adhesion, to aggravate the injury very much; his face, neck, and hands, suffered greatly; his eye-brows, eye-lashes, and the hair upon his head were totally destroyed; whilst the lobes of the ears and adjacent

jacent parts were burned to a cinder. The accident happened at the distance of more than two miles from Leicester; but an assistant of mine, as I was at that moment engaged in a case of midwifery, hastened to the aid of the poor man, carrying with him a quart of the spirit of wine with a large pot of common white cerate; and he was soon after followed by myself.—I found, in some parts, the sloughs were of considerable depth, and, upon the whole, such was the degree and extent of the injury, as to render the human form *a miserable spectacle* indeed.

The parts injured by the accident were first of all washed with warm milk and water; they were then covered with linen, on which was spread some of the cerate; and, on the outside of this application, spirit of wine was continually applied, so as to procure a constant evaporation for twenty-four hours. This soon produced ease, with considerable abatement of inflammation. The remedy, however, was persisted in, until the evening of the third day; for it was not before that time that perfect ease was obtained; during which period, two quarts of spirit had been consumed. Those sloughs which appeared to be deep

deep, were then covered with soft digestive; a cooling purge was given him, and wax and oil completed the cure. The injury appeared at first to be of such magnitude, that I was apprehensive, much deformity, or defacement, must have been the unavoidable consequence of it; but, much to my satisfaction, the parts healed without any further inconvenience to my patient, than that of leaving some well formed cicatrices behind them.

CASE III.

Of Ophthalmia.

Mr. W—— C——, a healthy young man, applied to me for relief, under violent inflammation of the eye, attended with pain, heat, and swelling. A purge, a julep with nitre, and a saturnine lotion, were directed for him, and afterwards a blister was applied to his back; his purgative was also repeated. No advantage having been obtained by these means, I was determined to try what spirit of wine, when evaporating, would do for him, under this troublesome degree of inflammation.

tion. The eyelids were therefore covered with a thin bladder, and spirit of wine was kept constantly applied to the bladder, with a sponge, for some hours. He almost immediately became easier, the inflammation began to abate, and after two ounces of the spirit had been consumed, he had no further occasion for that or any other remedy.

CASE IV.

A young man, of the age of 25 years, in going through a hedge with his gun, by accident discharged it, and the priming caught his eyelid and eyebrow, burning them a good deal; which, of course, became painful, inflamed, and the eye impatient of light. Being at the distance of two miles from home, he was obliged to walk so far, ere any application could be made to the injured parts. Spirit of wine was immediately applied, in the manner mentioned in the preceding cases, by the medium of a moistened bladder, in a state of evaporation; and, in the course of twenty-four hours, all injury, excepting the loss of the eyelash and eyebrow, was entirely removed. I confess that I am not disposed to

to believe this disease would have given way so speedily, or so effectually, to any of those means which are usually employed, and which *time* has stamped some value upon, as was evident from cold, created by *evaporation*, and persisted in.

CASE V.

A fervant boy had his leg very much scalded by boiling water poured upon it by accident. The part was immediately much inflamed, and blisters appeared upon its surface. A saturnine remedy was applied to it, and the next morning I saw him; when the inflammation was considerably increased, accompanied with pain. The injured part was immediately covered with a moistened bladder, and spirit of wine applied to the surface of it, in the manner I have recommended, for half an hour only. This proved a sufficient time to procure ease, to remove inflammation, and to make way for the application of wax and oil, under which, without any further trouble, the injured part healed.

I could add many other instances of the admirable effects of spirit of wine, as an ex-

ternal remedy, under a state of evaporation, in inflamed eyes, and injuries incurred by burning and scalding substances applied to the human body; but these, I trust, will be thought, by any candid person, of sufficient import to engage his attention.

I am,

Gentlemen,

Your obedient servant,

Leicester,
July 2, 1794.

THOMAS PARKINSON.

ARTICLE

ARTICLE VIII.

An Account of the Lithontriptic Power observed in the Muriatic Acid.

Ad utilitatem vitæ omnia consilia factaque nostra dirigenda sunt.

TACIT.

BY MR. COPLAND.

Read MAY 4, 1795.

It is well known that, of late years, different active articles of the Materia Medica, whose medical virtues were before very superficially ascertained, have been, by the attentive observation of different practitioners, established as medicines of real efficacy. And it is also equally well understood, that the medicinal effects of various articles yet remain to be determined by further observation; amongst which, the muriatic acid may, from the following history perhaps, appear to claim our immediate regard.

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In the summer of the year 1789, in the course of my attendance on a patient attacked with a rheumatic affection of the loins; I learned from him, that he had formerly been severely afflicted with pain in his loins from gravel, and that after making use of different means for some time, which only afforded him temporary ease, he at length procured a quack medicine, vended in this neighbourhood, from which he received complete relief, a large quantity of sand and gravel being discharged with his urine during its use. He likewise assured me that some friends, to whom he had recommended the same medicine in situations similar to what he himself had experienced, were equally fortunate in obtaining by it a discharge of urinary calculus.

Having no reason to dispute this person's assertions, and recollecting that medicines of efficacy had heretofore been found in the hands of people little acquainted with medical science, I became anxious to see this nostrum, and I accordingly procured some of it through the medium of my patient.

At first sight I suspected it was muriatic acid, and I was afterwards confirmed in that suspicion,

suspicion, by the white fumes which arose from it when exposed to a moderate degree of heat. On a comparison with muriatic acid in my possession, it differed from that only in colour, being somewhat lighter; the strength of each in dilution with water, and their attraction to kali, being similar.

Having been thus led to suppose that the muriatic acid might be employed as a solvent in calculous complaints, I took the opportunities the following cases afforded, of ascertaining its lithontriptic power.

CASE I.

March 6, 1790, I was consulted by William Berry, of Grimsthorpe Park, aged 62, who had long been subject to gravel-complaints, and who then was distressed with a frequent desire to make water, voiding it in small quantities with pain, accompanied also with an obtuse pain in the region of the bladder.—Considering these as symptoms of stone in the bladder, I directed him to take ten drops of the muriatic acid in a cup of water three times a day, and to increase

crease the quantity gradually daily according to its effects.

In a week or ten days after he returned, and informed me, that when he had taken his medicine to the extent of twenty-three drops, he began to discharge sand and gravel with his urine; a specimen of which he brought in a phial with him, and which was further confirmed by an evacuation before he took leave. Having caught a cold soon after this, he attributed that circumstance to the medicine, and gave it up; but he found it necessary afterwards to recur to it, and has since continued its use occasionally.

CASE II.

May 24, 1791, I was sent for to John Field, of Colsterworth, aged 80, who had been many years troubled with gravel, from which he occasionally got relieved; but the complaint had now become unusually ferocious, the symptoms giving reason to suspect a stone in the bladder.—He was accordingly ordered fifteen drops of the muriatic acid in water three times a day, and to increase the dose

dose gradually, as in the former case, till it produced some effect.

When he had proceeded to thirty drops, a coarse red sand was deposited in considerable quantity, at the bottom of the vessel containing his urine, which I took care to be satisfied of myself, and which was continued till a large quantity was discharged. He had then, in great measure, got rid of his pain, and was apparently much better; but the power of expelling his urine gradually declining, ended, on the 12th of June following, in a total suppression.

Till the 20th of the same month, I daily drew off his urine with the catheter, when a daily attendance, on account of the distance, becoming inconvenient and uncertain, I prevailed upon an intelligent neighbour to undertake the introduction of the catheter, which was soon accomplished with address, and which was employed more or less till his death, which took place some months after, apparently the mere effect of age.

The acid was continued some time after the suppression had taken place, but no more sand was discharged; yet, as he afterwards lived in tolerable ease, and as, at times, he

voided his urine in quantities occasionally sufficient to supersede the use of the catheter, I concluded that all calculous matter was discharged, and that the suppression of urine was to be attributed to a loss of tone in the bladder, the consequence of his years,

CASE III.

April 21, 1792, I was called to Sarah Richardson, of Holywell, aged 60, who was much alarmed by a discharge of bloody urine, which she voided with difficulty and pain; complaining at the same time of a pain in the region of the bladder, which she often expressed by applying her hand to the lower part of her body, and leaning forward as if to obtain ease.

Considering this as a stone case, the blood most probably being discharged from a vessel in the urinary organs, ruptured by the attrition of a rough-surfaced, or sharp-pointed stone, I employed the muriatic acid in thirty drop-doses in water three times a day, by which a discharge of sand was daily procured, with a relief from her bloody urine and painful affections.

CASE

CASE IV.

August 26, 1792, I prevailed upon a friend of mine, a respectable farmer and grazier in this neighbourhood, aged about 50, who had for some years been troubled with gravel, to make use of the muriatic acid.

Having a dread of medicines of seeming activity, he would only consent to take twenty drops in a large cup of a decoction of pareira brava, two or three times a day; by which a small quantity of red sand was daily evacuated, and his urine was discharged with more freedom. At this time he consulted a chemical acquaintance upon the nature of the medicine, and, after his report, declined to take it any longer, alledging that he found equal relief from mucilaginous and nitrous drinks.

Being disappointed with the unsatisfactory trial of the medicine in this case, and being convinced, that, with some people, to know a medicine is to lessen its value in their estimation, I added extract of logwood to muriatic acid, in the proportion of one grain of the former to four ounces of the latter, by which

which a tinge was obtained, sufficient to conceal the reality of the medicine from a common observer.

August 5, 1793, this patient again applied to me for the same complaint, for which I directed him to take twenty drops of the coloured muriatic acid, in a sufficient quantity of cold water, twice in the early part of the day, and ten drops in a half pint glass of rum and water sweetened with honey, as often after dinner and in the evening as he might think proper.

By pursuing this plan he got rid of his complaint, but whether sand was evacuated or not, during this second employment of the medicine, I cannot say with certainty, not having attended him upon this occasion, and he being principally intent upon a free discharge of urine. I am, however, inclined to think that it was, as I have lately been informed by him, that for these last twelve months his complaint, though a family one, hath given him very little disturbance.

Although I have hitherto chosen to observe the effects of the muriatic acid in moderate doses, yet, in the directions given by the empiric, from sixty to an hundred drops are
ordered

ordered to be taken in a gill of common drink three times a day, and I have been informed with an almost immediate effect: but such large doses might perhaps be more commodiously exhibited, by being blended with mucilage.

The evidence deducible from the preceding cases, appears to corroborate the testimony of my patient in favour of the lithontriptic power of the muriatic acid; and as no such power is even hinted at by Dr. Cullen, in the account of this article, in his late elaborate work on the *Materia Medica*, I am apprehensive that the same is little known.

My circle of practice affording few opportunities of treating calculous complaints, I am therefore desirous that this account of the solvent power of the muriatic acid should be generally known to professional men; with the hope that other practitioners, and particularly gentlemen who have the charge of medical charities, will endeavour to ascertain how far this acid may be considered as a lithontriptic.

I must beg leave to notice an inaccuracy, which took place in my paper of the 8th of February,

February, on that subject *. I have there said from memory, that from sixty to an hundred drops of the acid are directed by the empiric to be taken three times a day; but, on a re-perusal of his paper, I find it advised to the extent of two hundred drops at the same intervals.

* The muriatic acid as a lithontriptic, communicated about two years ago.

ARTICLE IX.

*Experiments on the external Use of Tartarised
Antimony.*

[IN A LETTER TO J. C. LETTSOM, M. D. &c.]

BY BENJAMIN HUTCHINSON, MEMBER of the
CORPORATION of SURGEONS, LONDON.

Read OCTOBER 12, 1795.

SIR,

Southwell, August 16, 1795.

HAVING read with some degree of surprise the very different and irreconcilable testimonies which appear in the second and the fourth volumes of the Memoirs of the Medical Society, on the external absorption of emetic tartar, I determined to pay attention to the subject, and having reason to believe that I have not been altogether unsuccessful in discovering the truth, I wish, through your means, to submit the result of my inquiries to the Medical Society.

VOL. V.

G

Experi-

Experimentalists in every science have a just claim to encouragement, and many valuable acquisitions might sink into oblivion, and be for ever lost to the world, if the modest assertions of genius and merit are suffered to be borne down and deemed fallacious when contradicted with an *appearance only* of success. Encouragement is the powerful stimulus to exertion, and when the only incentive to experiment is the discovery of truth or the dissipation of error, the most rigorous inquiries may be prosecuted with the true spirit both of zeal and candour.—Anxious to ascertain the fact, *whether* or *no* emetic tartar can be externally absorbed into the system, and whether any material effects are produced from such absorption, I repeated the experiments which are related by Mr. Sherwin, in the second volume of the Memoirs of the Medical Society of London, on a young lady and gentleman, by rubbing into the palms of the hands at bed-time, five grains of emetic tartar, with a few drops of water. It produced no sensible effect on myself till towards the morning, when a gentle diaphoresis was diffused over my whole body: the gentleman did not perceive any alteration, but the lady had

had evidently a SLIGHT NAUSEA, and a very gentle diaphoresis. We repeated the experiment several successive nights, and we all perceived a *glow* on the body, and the lady remarked that she had never *slept* so well in her life as when under the influence of the emetic tartar. We now varied the mode of introducing the medicine, by dissolving, or rather mixing, one drachm of it in two ounces of water. On rubbing into the palms of my hands eighty drops of this saturated solution, no very sensible effect was produced on myself, but the lady and gentleman both slightly perspired, and both experienced an unusual propensity to sleep; an effect which it does not appear that either Mr. Sherwin, or any of the other experimentalists, have mentioned. I increased the quantity the succeeding night, and doubt not but I rubbed into the palms of my hands the quantity of fifteen or twenty grains; in consequence of which, I awoke in the night with an increased full pulse, and great heat, succeeded by profuse perspiration; afterwards there came on a great and invincible disposition to sleep, an evident increase in the secretion of urine, but no material change in the intestinal sys-

tem. These experiments were repeated several successive nights, when, being convinced that the emetic tartar was taken into the system, and conceiving very flattering hopes from this mode of introduction in the treatment of diseases, I began by making the experiment on some patients then under my care.—The first case which I have to relate is that of *Mary Hill*, a farmer's daughter of Halam, in this neighbourhood, seventeen years of age: she had been troubled with a tertian ague four or five months, which had resisted the powers of bark, of different febrifuges, and of the arsenical solution which I had been administering some length of time. I was not without hope that the desired effect might be produced by the habit being well saturated with emetic tartar, and had the more confidence in this expectation, from the concurring opinion of a medical friend, whose sentiments I shall always regard with the greatest deference and respect. This patient began by rubbing into her hands and feet fifteen grains of emetic tartar night and morning. The experiment was commenced on the evening preceding the expected return of the paroxysm, and, upon inquiring how she felt the

the next morning, she complained that she had burned and sweated excessively, and that the medicine had given her so unusual a sensation, that she requested she might not be obliged to persevere; but, on pointing out the necessity of perseverance, she repeated the frictions according to my directions, and the succeeding paroxysms, in some degree, diminished. After using it three days, she again expressed a wish to desist, as she complained that it teased her with a *constant sickness*; however, with much persuasion, she persevered for ten days, when her ague totally left her. She could with difficulty walk across the room for a month after her complaint was removed, partly from excessive debility, but more particularly from the soreness which the friction had occasioned in her feet. I now gave her the bark, which soon restored her to her former health. The next case is that of a young gentleman who, for some years back, had been troubled with a violent rheumatic pain in his right arm extending to his shoulder; he had tried the whole class of anti-rheumatics, as guaiacum, Dr. James's powder, analeptic pills, mercury, &c. &c. without any good effect: I

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therefore

therefore resolved to give the emetic tartar a fair trial, and prescribed a scruple to be rubbed into the arm every night, rather below the part affected, in the course of the absorbents: from the first friction he experienced considerable heat, *stupors*, a quickened pulse, and profuse diaphoresis. The third friction raised a few small pustules, in consequence of which it was necessary to omit its use a few days, when again persevering, in the space of ten days his pain entirely left him. The concurring testimony of my experiments seems by no means requisite to establish the simple fact, that emetic tartar can be received into the system by the cutaneous absorbents: the only doubt which can possibly exist, is, whether or no its action and effects from external introduction, are equal or superior to its action and effects when the system receives it by the stomach?—I believe no man can doubt the reception of mercury into the habit by external absorption, notwithstanding it may be often and repeatedly applied without producing any sensible effect, or, perhaps, producing no other effect than the same kind of troublesome pustules which so frequently follow the external use of emetic tartar; why, therefore,

fore, need we disbelieve the same fact with respect to the antimonial? We are not to suppose, because it may fail to make a person in health either vomit or sweat, that it may not be capable of relieving a patient afflicted with disease, of some disagreeable symptom, on which the same medicine, in a diminished dose, administered by the stomach, may have no effect. Indeed it is impossible that so small a quantity as it is in our power to take in by the stomach, can produce any good effect in such diseases, as may hereafter be found to require the blood vessels to be well saturated with emetic tartar: the sciatica and deep-seated rheumatism are probably diseases of this nature, and there may be many others. I am happy, therefore, in adding my testimony upon this occasion to that of the ingenious Dr. Bradley, in the fourth volume of the Medical Memoirs, wherein he says, that "in one of his patients the itching and eruption were preceded by a general restlessness, and two or three times, by a slight degree of nausea." It is certain that no nausea could be produced unless by the absorption of the antimonial, as we must suppose the influence of the imagination could not bring on nausea,

the patient being unacquainted with the nature of the medicine.—But they who make experiments with emetic tartar by external absorption, must not expect its action on the system to be as evident as that of mercury: they must not expect to discover its action on the salivary glands, nor can it be expected with certainty even to produce perspiration; but it seems evidently to have a specific action on the blood vessels, and it possesses also a specific influence over the skin, and is known to be particularly useful in some cutaneous eruptions. I have frequently seen it applied successfully in the cure of the itch, but the inconvenience in this disease of teasing the patient with an almost constant nausea, renders it a disagreeable remedy: this circumstance has frequently laid me under the necessity of omitting the medicine when it had nearly completed a cure. I think it necessary to mention, that when I made the experiments with emetic tartar, the weather was unusually cold, being the latter part of JUNE, and the antimonial was from Apothecaries Hall. If these remarks afford the least satisfaction to the members of the Medical Society, they will contribute no small degree of pleasure to myself.—I am, Sir, &c.

ARTICLE

ARTICLE X.

Some Account of a Species of Phthisis Pulmonalis, peculiar to Persons employed in pointing Needles in the Needle Manufacture.

By JAMES JOHNSTONE, M. D. WORCESTER,
C. M. S.

Read FEBRUARY 1, 1796.

IF the mischiefs arising from a part of the process of an useful manufacture may be alleviated by exciting the attention of the humane and the intelligent to them, I shall have my *only wish* in sending the following observations to the Medical Society; and, in that wish, I am certain of the unanimity of my colleagues.

The needle manufactory is carried on to considerable extent, in a line of this country extending from Bromsgrove to Alcester, especially at Red-ditch, which is nearly in the center of that line.

• Persons

Persons employed in pointing the needles by dry grinding them, are constantly very soon affected with pulmonary complaints, such as cough, purulent or bloody expectoration ; and being so affected, they gradually waste in flesh and strength, and hardly ever attain the age of forty years.

As the business is known to be constantly attended with such fatal effects, the manufacturers find it not very easy to engage persons to work at it ; and they who are engaged, are so well paid as to get money enough to mispend in drink ; being, for the most part, in this respect, persons of very irregular manners.

Parents in binding their children to the needle trade, for the most part, condition, that they shall not be employed in this pernicious branch of the manufactory, the grinding or pointing the needles.

Besides their habitual excess in drinking, the persons so employed chew much tobacco, in order, perhaps, to solicit a secretion of saliva, which they throw out plentifully to wet their hands, and the needles overheated in attrition with the grindstone.

Surely it would not be difficult to have a
vessel

vessel filled with cold water near, occasionally to dip therein the hand, and cool the metal, and thereby to avoid this perpetual waste of a fluid, by the loss of which digestion is impaired and strength sunk. Nor would it be difficult to contrive a crape hood or gauze helmet, to receive the head and rest on the shoulders, which would prevent a great deal of the metalline and stony particles of dust, which fly off in the operation of dry grinding the needles, from entering the ramifications of the arteria trachea, and cells of the lungs, with the air in the action of inspiration.

The cause of the pulmonary phthisis peculiar to the people who follow this business, is, undoubtedly, the continual irritation of the lungs by the dust of small particles of iron and stone, and their gradual congestion into small concretions on the air cells of the lungs.

They unite there into small balls by means of the mucus which is secreted in order to defend the tender substances of the lungs.

By the continual irritation of the tender and irritable surface of the lungs the suppurative inflammation is gradually produced, which at length ends in ulceration.

In

In the earlier stages of the disease, the cough which is produced, brings up only slime and mucus, or, perhaps, produces hæmoptœ; in the advanced state, the matter expectorated is purulent, and often mixed with the fine dust of the iron and stone, united with mucus in a hardened state.

The progress of the disease produces all the too well known symptoms of confirmed phthisis pulmonalis. The patients gradually grow thinner and more emaciated; and are at last wasted by colliquative sweats and diarrhœa, till they cease to live. This progress is no doubt accelerated by the waste of saliva, as well as by intemperance in drinking.

This fatal progression is too well known, and particularly so to the unhappy victims of it; so much indeed, as to precipitate them by a kind of despair to neglect all means of relief.

In a considerable number of patients for whom I have been consulted, I have given temporary relief by medicines usually prescribed for tabid patients of the pulmonary kind. I have often relieved and suspended the progress of the disease: but when it had lasted some time, been rooted by habit, on continuing

continuing the business which was the original cause of it, it has generally ended fatally.

I think it probable that if these persons were induced so far to attend to their safety as to use endeavours to prevent the inhalation of this pernicious dust, by a contrivance of the nature I have suggested; and if they would habitually cool their hands and the heated needles, instead of wasting their saliva for that purpose, these precautions, with temperance, might very much retard, if not prevent, the progress of this fatal disease. Besides, the hope thus supported would probably make these persons more careful of themselves, and more attentive to the means of early relief and of cure.

Worcester, January 1, 1796.

ARTICLE XI.

On the Poison of Fish.

By EDWARD THOMAS, M. D. MEMBER OF THE
COLLEGE OF PHYSICIANS.

Read FEBRUARY 17, 1796.

IN making known the few following remarks on the causes and poisonous effects of some fish in the West Indies, I am actuated by two motives; the desire of pointing out the importance of the subject, and the hopes of inducing some inquisitive mind to ascertain by farther inquiries the origin and different phenomena of this singular poison, as it has been hitherto unaccountably neglected by those gentlemen who have favoured the world with descriptions of the different diseases incident to that climate, and but slightly noticed by Sloane, Catesby, or Brown. The deleterious effects of fish are not confined to that part of the world alone; even in this
6 country

country inconveniencies of a similar nature follow from their use, if credit be due to the information which I have received from several of the most eminent of the faculty, or the respectable authority of Dr. Cullen, be admitted, who observes in his *Materia Medica*, that "some kinds of fish, such as eels, salmon, herrings, and in peculiar constitutions muscles, or even lobsters, independently of their putrescency, give a singular irritation to the system, and, during their digestion in the stomach, occasion a considerable efflorescence on the skin, sometimes partial, at other times on the whole body; sometimes with a considerable febrile disorder, but at other times with very little."

The cause of this deleterious quality in fish has given rise to various conjectures. Some are inclined to think that there are two distinct varieties of the same fish, such as we observe in the sprat and cavallee; but the characteristic marks, if they do exist, are so obscure, that the oldest and most experienced fishermen are constantly deceived, and though obvious in the above fish, do not, I think, extend to any other. How far a careful and minute examination by some intelligent naturalist

ralist might tend to elucidate this matter is impossible to prejudge. The discovery would doubtless be attended with evident advantages, and the investigation, though difficult and tedious, should not be declined.

Others impute it to copperas banks on or near which fish feed; but with what degree of reason, is extremely doubtful, as the reality of such banks in the West Indies has never yet been satisfactorily proved; and though fish of that description are frequently caught near particular parts of some islands, it is no proof in support of this opinion, as they are often taken at a great distance from the land. We should besides be led to suppose, that all kinds of fish taken on the same banks would prove equally hurtful, as they are all alike exposed to the same causes.

That it arises however from their food, is strongly corroborated by several circumstances; but what that food is, remains yet to be discovered. It is a well known fact that the land crab, *cancer terrestris*, when taken near manchineel trees, is found, particularly in dry seasons, at one time safe, at another poisonous, from feeding on the bark or leaves of that tree, in lieu of other nourishment.

fishment. The mountain crab is likewise dangerous at particular times of the year from a similar cause. The inhabitants are so sensible of this, that they never eat them unless they have been kept in coops a fortnight or three weeks, and purged with the physic nut leaves. A convincing proof that amphibia may acquire this noxious quality from their food, without inconvenience or danger to themselves.

When taken off the hook, if the precaution is used, to gut and salt them immediately, they seldom or never create any disorder. The following facts evidently prove this.

Mr. Henry Berkley, treasurer of the island of St. Kitt's, is extremely partial to the barracuta, and never refuses to purchase them from fishermen whom he knows, provided they gut and salt them as soon as they are taken out of the water. He has never met with an accident since he adopted this practice, which is now upwards of thirty years. A fisherman caught some yellow-bill sprats in Halfmoon Bay, and after using the above precautions of gutting, &c. threw the entrails into the sea, for fear of poisoning his favourite dog, which accompanied him in all his ex-

curfions: this happened in the morning. He carried the sprats home, and, together with his family, dined on them; in the afternoon he returned to his usual occupation of catching sprats, and observing his dog busy eating something which it had picked up in the surf, he had the curiosity to examine what it was, and found it to be the guts of the fish thrown ashore by the waves. He immediately afterwards observed his dog in great agonies, and soon after he carried him home he died. The above is related from unquestionable authority, and can be confirmed by the testimony of several of the most respectable inhabitants of St. Kitt's. Another fact, equally important, happened to Mr. Duport, at Palmetto Point. This man has been a fisherman more than forty years, and employs a number of negroes in drawing seines in different parts of the island. They one day caught a great quantity of yellow-bill sprats, which, as usual, he forbade his negroes to make use of, to avoid accidents; but, contrary to his orders, they gutted a number of them and threw the guts on a dung-heap in an enclosed yard where he kept his poultry. To his astonishment next morning, he found a
great

great number of them dead, but, on inquiry, none of his people were affected. Mr. Joseph Rawlins, of the same island, had a negro poisoned by sprats; on inquiring into the particulars, he was told that the fishermen who caught them, had made a hearty breakfast on them without experiencing the slightest inconvenience. The following instance shews the extreme subtlety of the poison. Mr. Thomas, of St. Kitt's, a surgeon, since deceased, was desired by one of his servants to examine some yellow-bill sprats which had lain a few hours in the house, as they had a suspicious appearance; on examination he found a number of flies lying dead on the bodies of the fish, and on different parts of the table, others half alive were crawling away from destruction as fast as they could, though some of the same sprats had been consumed in the morning by his servants without any bad consequences.

Lastly, the quantity of poisoned fish had been found more numerous at some particular periods of the year than at others. This, however, is not confirmed by experience, for some relying too much on this circumstance, expose themselves to great danger. A negro

fisherman of Dr. Stevens of St. Kitt's, accustomed to eat the yellow-bill sprat when in season, (as it is generally termed) and constantly escaping its poisonous effects, at length grew so confident, that he imagined himself proof against the effects of any fish-poison, and one day requested from the cook the remainder of the barracuta which had poisoned a Mr. Elliot; his request was granted, he ate it, and suffered very severely for his temerity.

This poison does not pervade indiscriminately the different classes of fish found in the West Indian seas; but observes a regularity, which, I believe, it has never been known to deviate from, however nearly related the fish may be to one another. The black-bill sprat (*barenga minor*) of Catesby, for instance, is always wholesome, though so nearly allied to the yellow-bill, that it requires a very nice eye to discover the difference. The fish most to be dreaded are, the barracuta, yellow-bill sprat, cavallee, rock-fish, king-fish, smooth bottle-fish, and lobster.

The barracuta (*perca major*) of Brown, is so often poisonous, that it is seldom touched, although introduced at table, and by some accounted a very delicate dish. It is a very voracious

voracious fish, and has been sometimes known to attack people who were bathing in the sea. A less species, called umbla minor, is mentioned by Sloane, who says, that, according to its feeding on venomous or not venomous food, it is wholesome or poisonous to those that eat it; also noxious in some seasons of the year and in some places, and innocent in others, I suppose, according to its nourishment, by which now and then it acquires so much poison as to kill immediately.

The yellow-bill sprat, or windward sprat, not noticed by Sloane, Catesby, or Brown, is known from the black-bill (*barenga minor*) by the minuteness of its scales, and by a yellow spot on each side of its head. It is always to be dreaded, and therefore is only purchased by the lower class of inhabitants, or by people of colour.

The cavallee (*scamber*) of Brown. Three varieties of this fish are brought to market, the bottle-nose, amber, and green-back. The two first frequently prove poisonous, the last is always innocent.

The *perca marina* of Catesby, or rock-fish. This fish, Catesby says, has the worst character for its poisonous quality of any other

among the Bahama Islands, but whether they are eatable from any particular places, I know not, many of these poisonous fishes being not so when caught in some places; of which the inhabitants can give a near guess, but sometimes they are miserably mistaken.

The king-fish (*xiphias*) of Brown, derives its English name from its superior delicacy, but, notwithstanding its high reputation, proves now and then poisonous.

The smooth bottle-fish (*ostracion glabellum*) found in Kingston Harbour, Jamaica, in one instance killed in half an hour, producing general coldness, nausea, stupor, and death: by use of vomits timely administered, some who had eaten it recovered. Dr. Wright attended the patients, and stated the fact to Mr. Home in his weekly return.

The sea lobster (*astacus*) of Brown, though classed among insects, I have thought proper to mention here, as it is at times equally dangerous.

The consequences attending this poison are, in general, very alarming, and in many instances fatal. A negro of Mrs. Deming's, of St. Kitt's, died in the most excruciating agonies from eating the yellow-bill sprat; another

another negro on Borryau's estate, whom Dr. Stevens attended, died from the same cause.

Some stomachs seem to be more susceptible of the action of the poison than others, and feel the effects of it almost immediately: the symptoms in others do not appear until two, three, or four hours after the accident, and some escape their violence altogether. A party of gentlemen marooning some years ago at Friars Bay, dined on cavallee; all who partook of it were poisoned, some sooner, some later than others; and, if my memory does not fail me, two out of the number died in consequence of it, although not immediately. One gentleman who had drank a large quantity of Madeira wine, felt no other ill effects from what he had eaten, than a slight swelling in his knees. This precaution, however, cannot always be depended upon, as a friend of mine was severely poisoned by a lobster, notwithstanding he had fortified his stomach with a bottle of old Madeira and a bottle of cherry-brandy.

The usual symptoms of fish-poison are cardialgia, nausea, severe vomiting, and purging, tormina, cold sweats, fainting, and, in some, vertigo: the face in the mean time becomes

highly flushed, and the eyes inflamed, attended with a burning heat and spasmodic twitches, which particularly affect the eyes, the sufferers often complaining that they are ready to start from their sockets. The burning which is felt in the face and eyes is extended to the palms of the hands, the tips of the fingers, and over the whole body; sometimes accompanied, and sometimes succeeded, by a miliary eruption, or, by an efflorescence resembling the bite of a bug, but more extensive. The pulse, for the most part, is hard and frequent. This ardor of the skin, and a prickling in the hands and nose when immersed in cold water, are almost invariable symptoms of fish-poison, and enable the practitioner to decide with confidence on the nature of the disease.

The neck of the bladder, urethra, and sphincter ani, appear to sympathize with the skin, as the patients often complain of a like ardor in those parts, with a difficulty of making water, strangury, and afflicting tenesmus.

When the violence of the disorder is somewhat abated, the cuticle begins to scale off in various parts of the body. In one patient whom I attended, a miliary efflorescence accompanied

accompanied the ardor of the skin, without any evident desquamation.

The last and most tedious symptom, which may be rather considered as secondary, is an acute and shooting pain in the articulations of the knee, wrist, ancles, and sometimes in the cylindrical bones, with more or less swelling. It is distressing at intervals for years after every other train of the disorder has disappeared, and is not unfrequently attended with œdema.

This is the ordinary course of the disorder, collected from a variety of cases that came under my own immediate inspection, all of which terminated happily. But, unfortunately, the issue is not always so favourable; the health of some who escape its fatal effects, is often so much impaired, that a foundation is laid for a train of other evils, and a visit to a cold climate is at last found necessary to restore vigour to their constitutions.

The consequences should always be dreaded, and relief ought to be given immediately, as it is impossible to foresee the event with any degree of certainty. Much, however, may be learned from the different symptoms, although they are liable to great variations,
from

from a greater or a less degree of irritability existing in the stomach, from the quantity taken, or from a greater degree of acrimony in the poison; for why should it attack some only slightly, and prove fatal to others?

The affinity of this disorder to cholera is so great, that it requires a considerable share of practical knowledge to discriminate them. You must be led entirely by the appearance and sensation of the skin, as they are the only and safest guides, where no certain information can be collected of the food of the patient, or of the nature of the fish. It is of the highest importance to ascertain this distinction, as a mistake might endanger the life of the patient. In cholera, it is the duty of the physician to stop the progress of the disorder as soon as he can; whereas, in fish-poison, a discharge of the deleterious matter is the first intention of cure, and should be promoted according to the strength of the patient.

In the cure of this disorder two purposes are clearly pointed out, viz. to procure a discharge of the poison as speedily as possible, and to remove or alleviate the effects that result from it. The first can only be effected by

by medicines whose operation is quick and effective, and of all those I think a preference should be given to the vitriolated zinc, which, if timely administered, is alone sufficient to obviate the dangerous tendency of the poison. But, as it is difficult to ascertain whether the whole of the poison has been removed, I consider it always most prudent to give a solution of the vitriolated natron, or some other salt, after the operation of the emetic, and continue it as long as the different circumstances point out its necessity. This method is practicable in robust constitutions, where evacuations may be carried to almost any lengths; but, in weak delicate habits, the vomiting and purging are so severe, and debilitate the patients so much, that you are frequently under the necessity of prescribing anodynes, before you are certain that the stomach and intestines have been freed from their noxious contents: the interval of ease they procure invigorates the system, and enables the stomach to retain such medicines as are proper to remove the poison.

To effect the second intention, no positive rule can be laid down, as you are to be directed by the nature and violence of the symptoms.

symptoms. After due evacuations, if the symptoms of cholera still continue, which frequently happens, they should be checked by anodynes, cordials, and glysters of water gruel or starch, with or without laudanum. A gentle moisture of the skin may then be promoted by the use of mild diaphoretics; and here none answers better than the common Dover's powder; the ardor of the skin is powerfully relieved by this medicine. A liberal use of some mucilaginous drink should be recommended as long as the strangury remains. The pains of the articulations are sometimes very obstinate and yield to nothing but time. Relief may nevertheless be procured by decoctions of guaiacum and sassa-parilla, by wrapping the parts in flannel, and sometimes from the warm and sometimes from the cold bath. From the beneficial effects of old Madeira in the one instance related, I think it would not be amiss to recommend a liberal use of it to such as were under a suspicion of being poisoned, where no medicine could be procured, or where the aversion to medicines could not be overcome; but it is rather a dangerous experiment. The oil of the bignonia is warmly recommended by some,

some, and frequently administered by negroes to people of their colour, but with what success I cannot say, as I never saw it used.

As it is of the utmost importance to be able to distinguish a wholesome fish from one that is poisonous, it is highly necessary to be advised of the means that have been hitherto taken to discover it. When a fish is suspected to be poisonous, it is a common practice to hold a silver spoon for some time in the water in which it is boiling, and if the spoon be taken out unsullied, the fish is reputed safe; but if the colour be in any manner changed, the fish is immediately thrown away as unwholesome. A safer and surer criterion to judge by, is, to give the entrails of the fish to a dog or other animal; if, after some time, no inconvenience or apparent disorder arises from it, the fish may then be eaten with safety.

There are some who maintain that a discoloration of the intestines and blood vessels are positive signs of poison; but I am sorry that I can neither confirm nor deny their assertion from ocular proof, as opportunities of examining these fish seldom occur, being generally thrown away after their nature is known, or consumed before they are suspected.

pected. I understand it is by no means a constant sign, and therefore less to be depended upon, as it may have taken place in consequence of some change in their œconomy similar to some European fish. What Du Tertre says of the teeth of the barracuta is erroneous, as it was contradicted by the best information I could obtain.

Another opinion prevails amongst the fishermen, that fish without scales are most liable to be affected by this poison; which seems to be the result of experience, and deserves particular attention from those who mean hereafter to prosecute the inquiry, as the greater part of the fish which have been described are deficient in this respect.

The silence of the several gentlemen who have described the disorders of warm climates, on the preceding subject, may afford room to doubt the existence of a poison in fish, and to ascribe to other causes the effects which result from it: but though unacquainted with the causes and nature of this poison, I may, without presumption, say, that the facts which have been brought forward in support of it are so strong and pointed, that no further doubt can remain on the subject. From
8 these

these same facts the following inferences may be clearly drawn; that the poison lies in the intestinal tube, is assimilated with their food, and circulates without any detriment to the fish; that its effects are, in general, more deleterious to animals than to man, and lastly, that the longer the fish remains out of water, the more violent the poison becomes: but whether the process of putrescency, which is rapid in the West Indies, adds a greater degree of acrimony to the poison, or whether it is the consequence of transudation, must be left to be determined by future observations.

In the VIIth Volume of Medical Facts and Observations, page 289, Dr. Clarke, of Dominica, in a letter to Dr. Simmons, of London, observes, "Capsicum (*Cayenne pepper*) has been known, long ago, to possess the power of preventing or counter-acting, the poisonous effects of fish." He adds, "This fish poison seldom destroys life entirely, except the deadly poison of the yellow-billed sprat, as it is called, which kills very speedily; but those who have eaten of the other kinds of poisonous fish, are frequently reduced to the last extremity by vomiting, and life is almost extinguished before stimulants can take effect."

ARTICLE XII.

Case of Deposition of Mercury upon the Bones.

By FRANCIS RIGBY BRODBELT.

Read APRIL 18, 1796.

MR. PRESIDENT AND GENTLEMEN,

HAVING some time ago related a case to the members of the society, which appeared to them rather a remarkable one, I was desired to draw up the particulars of it, which I now have the honour of presenting to the Society.

In the winter of 1792, when prosecuting the dissections at St. Thomas's Hospital, it fell to my lot to have a subject that was affected with the venereal disease; which evinced itself by chancres on the glans penis, and a suppurative bubo; but the death of the patient seemed evidently to have been brought on by universal dropfy, and especially by that of the breast.

After

After having finished my intended dissections, I took out the bones and ligaments of the larynx in order to prepare them myself, and sent away the subject to be converted into a skeleton.

When I had removed the muscular parts from the larynx, &c. I left it during the night to dry, intending on the next day to finish the preparation; but my surprise was great to behold it covered with globules of mercury, which had, I suppose, escaped my observation the night before, either from the parts being wet, or from my having been obliged to make use of the light of candles.

On examining the *os hyoides*, I found it very much covered with the quicksilver, as were likewise the thyroid and cricoid cartilages; small particles were also discovered upon the trachea; but they appeared to have been scattered upon that part, from the incautious manner in which I had detached the muscles the night before, not being aware, that so remarkable a *phænomenon* would have presented itself.—My curiosity being roused at this unexpected occurrence, I was led to examine the bones that were macerating,

rating, to discover whether they likewise were affected in the same manner with the mercury.

I detached the fleshy parts from the *os frontis*, the *sternum* and *tibia*, and, after having carefully examined these bones, I was fully persuaded from their appearance, that the metal had been deposited upon every bone in the body; for, although upon these bones the globules of quicksilver were small in comparison with those on the larynx, (some of which were the size of a common pin's head) yet even here, by a little minute inspection, they were easily discovered, and, by the help of a magnifying glass, were readily made to appear.

Since the skeleton has been completed, I have examined the bones, and have found almost every cylindrical one, together with the *sternum*, and one of the *scapulæ*, affected with the venereal disease, but have not been able to discover any traces of mercury on them; was also equally unsuccessful on sawing one of the *tibiæ* in two.

REMARKS.

REMARKS.

From the little notice taken by medical authors of the above-mentioned *phænonon*, we are naturally led to conclude, that a case of this kind is rare, and the discovery of such cases being only to be brought about by the dissection of patients who have died of the venereal disease (which is a rare occurrence), it may be a long time before we shall be able to determine, in what proportion of cases the deposition of mercury on the bones takes place.

We are informed by Castelli, that he found two ounces of mercury in the body of a woman.

Wepfer likewise mentions having seen a large quantity flow from the occipital hole, accompanied with a black powder; and Schenkius speaks of a man, who, after three frictions with mercury, vomited a cupful of the metal.

Whether we should give credit to such accounts I will not take upon me to determine.

It would have been a satisfaction to have

learned what preparations of mercury the patient had been making use of, but, from the manner in which I obtained the body, it was utterly impossible.

Even supposing them to have been the least oxydated, as the common blue ointment, yet it is still remarkable, that the metal should, after having been divided into such minute particles, and circulated through the body, return to its pristine fluidity.

It is not easy to determine in what manner mercury acts upon the body, in the cure of the venereal disease; but it is certain, that in general, after it has produced its due effect, it is expelled from the system either with the perspiration, the urine, or by other evacuations, and patients are in no manner incommoded.

It is alledged indeed by some authors, but I believe, upon no just grounds (as they do not produce facts to prove their assertion), that the violent pains in the bones, resembling those that are venereal, which sometimes arise from the too free use of mercury, are to be attributed to the metal collected in globules in the cavities of the bones.

It

It would be absurd to suppose, that there could have been any particular power in this patient's body capable of reducing the metal; but we may venture to give it as our opinion, that the deposition upon the bones might have been occasioned, or increased, by the disease of which the patient died.

As in dropsy, we know, that the absorbents are in general much debilitated, and in a great measure do not perform their office, it appears to me not improbable, that after the mercury had been deposited upon the bones by the exhaling arteries, (whose action is also much increased by relaxation) the lymphatics of the part, perhaps from the dropical symptoms increasing, had not been able to take it up, and re-convey it into the circulating system.

When we consider how near the larynx is situated to the heart, and how very plentifully it is supplied with blood, we cannot hesitate in declaring these to be the causes of the globules of mercury being much larger here, than in any other part of the body.

FRANCIS RIGBY BRODBELT.

N. B. Dr. B. subjoined two cases where he had given mercury to dogs, and one where he had given it to a rabbit, in as large a quantity as possible; but he was not able to discover the least vestige of it on the larynx or bones of either: he proposes to try mercurial friction when time will permit.

ARTICLE

ARTICLE XIII.

Observations on the Wigglesworth Water.

By T. GARNETT, M. D. C. M. S. &c. PHYSICIAN
AT HARROGATE.

Read MAY 25, 1795.

TO J. LETTSOM, M. D.

DEAR SIR,

Harrogate, Dec. 19, 1793.

HAVING occasion to pass through Settle some time ago, I was induced to visit some mineral waters at Wigglesworth, about five miles from Settle. If you think the following account of their nature and medicinal virtues worth presenting to the Medical Society, it is much at your service. I regret that I had not time to make a full and complete analysis of them; but the experiments which I made enable me to ascertain, with sufficient accuracy; the nature of the substances they contain. Though at present less attention is paid to these waters than they

deserve, they seem formerly to have engrossed a greater degree of public favour, particularly the sulphur-well, which was enclosed with a cover one hundred and twenty-seven years since, as appears by a date on one of the stones. Dr. Short takes notice of these waters in his history of the mineral waters of Derbyshire, Lincolnshire, and Yorkshire, and says, that in his time "the country people drank four or five pints of the sulphur water to vomit them, and six or seven to purge them." The water in the sulphur-well appears to have a blackish tinge, but, when taken up in a glass is perfectly clear and transparent; it has a strong hepatic or sulphureous smell, similar to bilge water, or the scourings of a gun; or, to the celebrated sulphur-water at Harrogate. It has a bitter saline taste, though weak, and, when suffered to stand in considerable quantity, the surface exposed to the air is soon covered with a white or yellowish film, owing to the decomposition of the sulphurated hydrogen gas by the oxygen of the atmospheric air. From the experiments which I made, it appears that this water is impregnated with Epsom salt, or *sulphat of magnesia*, in the proportion of seventy-

venty-five grains in a gallon. A wine gallon likewise contains twenty-one cubic inches of aërial fluids, of which seventeen consist of *sulphurated hydrogen*, or hepatic air, with a small portion of fixed air or *carbonic acid*, and the remaining four of *azote*.

Hence it is evident, that this water differs from the sulphur-water at Harrogate principally in containing a much smaller quantity of saline matter *; being impregnated with similar aërial fluids, though in somewhat smaller quantity. It seems to approach nearly to the sulphur-water at Shap, in Westmoreland, which is much resorted to, though the accommodations are by no means good; and I have no doubt that the Wiggleworth water will be found at least equally efficacious with that at Shap.

At the distance of about a foot from the sulphur-well, is a weak chalybeate water. It contains a small quantity of iron suspended by fixed air, and a small portion of *selenite* or *sulphat of lime*; but scarcely deserves notice,

* The whole quantity of saline matter contained in the Wiggleworth sulphur-water is only 3 dwts. 3 gr. whereas the same quantity of the sulphur-water at Harrogate contains no less than 1 oz. 11 dwts, 10 gr.

because

because about two hundred yards above, on the side of a rivulet, is a pleasant and much stronger chalybeate water, which will always be used in preference to it. A wine gallon of this last chalybeate contains about two grains of *carbonate of iron*, and is impregnated with sixteen cubic inches of aerial fluids, of which eleven consist of fixed air, or *carbonic acid gas*, and the remaining five of *azote*.

If this short account of the nature and properties of the Wigglesworth water should be sufficient to fix the attention of neighbouring practitioners on those springs which the bountiful Creator has undoubtedly bestowed for the relief of our distressed fellow-creatures, it will give great pleasure to

Your very obedient, &c,

T. GARNETT,

ARTICLE

ARTICLE XIV.

*Observations on the Nature and Virtues of the
Harrogate Waters.*

By T. GARNETT, M. D. C. M. S. &c, PHYSICIAN
AT HARROGATE.

Read MAY 27, 1793,

It is much to be wished that physicians residing near the different mineral waters resorted to in this island, would draw up a faithful account of their nature and properties; by which means medical practitioners would more competently form a judgment to what places to send their patients with the greatest probability of relief. Such an account might easily be comprised in a small volume, and would not only be useful to every medical gentleman, but interesting to the public at large.

The mineral waters at Harrogate have been long known, and deservedly celebrated; yet

I think it will readily be acknowledged that medical practitioners in general have been very imperfectly acquainted with their nature and virtues; and though great numbers of patients resort to this watering place every year, yet it is certain that more come upon the recommendation of their friends who have been here before, than in consequence of the advice of their physician.

As we have not been favoured with any accurate analysis of these waters, it is not surprising that medical gentlemen, who have never been upon the spot, should be, in a great measure, ignorant of their nature, and, consequently, of the diseases in which they are proper. I have lately published a treatise on those waters, containing their chemical analysis, medicinal properties, and plain directions for their use: but am persuaded, that a short account of their nature and properties, inserted in the Memoirs of the Medical Society, will have a more extensive circulation than the publication of a private individual.

The mineral waters at Harrogate are numerous, but may, in a general way, be divided into two classes; *sulphureous* and *chalybeate*. Of the former, there are some which
are

are strongly impregnated with sulphurated hydrogen and other gases, and which also contain a considerable portion of neutral salts: there are others impregnated with the same gases, which contain a much smaller portion of the same, and different saline matters; and others again which possess the sulphureous impregnation, without any sensible, or at least considerable, portion of saline substances.

The chalybeates are of various degrees of strength, consisting generally of iron suspended by fixed air; but we have one in which the iron is united to the muriatic acid, which is very uncommon. I have lately discovered a chalybeate water not far from the sulphur-wells, which will be very convenient for the company at Low-Harrogate, and which seems full as strong as the chalybeates at High-Harrogate; I have not yet completed the analysis of it, but, as soon as that is done, I intend to present it to the society*.

The waters most in use are the sulphur-wells at Low-Harrogate, containing a strong saline, as well as sulphureous impregnation;

* Since this Memoir was read, Dr. Garnett has sent the analysis of the water here alluded to, and which he calls St. George's Spa; its contents are given in the Table.

the chalybeates at High-Harrogate, viz. the Tewit well and Old Spa, and the Crescent water at Low-Harrogate, which is of a middle nature, being both sulphureous and chalybeate. The contents in a wine gallon of each of these waters may be seen in the following table.

A T A B L E

Exhibiting the Contents, in a Wine Gallon, of each of the Harrogate Waters.

NAMES of the WATERS.	Specific gravity.	Cubic Inches.			Grains.								
		Carbonic acid gas.	Azotic gas.	Hepatic or sulphurated hydrog. gas.	Muriat of foda.	Muriat of lime.	Muriat of magnesia.	Carbonat of lime.	Carbonat of magnesia.	Carbonat of iron.	Sulphat of magnesia.	Sulphat of foda.	Sulphat of lime.
Sulphur Water.	1,0064	8	7	19	615,5	13	91	18,5	5,5	—	10,5	—	—
Crescent Water.	1,002	20,8	—	13,6	137	—	45	3,1	—	2	8	—	—
Tewit Well.	1,00017	16	5	—	—	—	—	—	—	2,5	—	—	4
Old Spa.	1,00014	15,75	4,25	—	—	—	—	—	—	2	—	3	1,5
St. George's Spa.	1,00012	13,5	3,5	—	—	—	—	—	—	2	—	—	4,5

Though the water which is most used is the sulphureous saline water, the analysis of which stands first in this table; yet, on account of the large quantity of salt which it contains, there are some invalids with whom it will not agree. In these cases I have generally recommended the water simply impregnated with sulphurated hydrogen gas, which seldom disagrees with the most irritable stomach, and which answers every intention to be expected from the sulphur water in common use, except acting as a purgative. I have found some patients, though but few, afflicted with herpetic eruptions, who could not, on account of the great irritability of the skin, bear the common sulphur water applied as a warm bath. Such patients have used the simple sulphurated water, without experiencing the irritation which arose from the salts in the other water.

It will appear from the table that these waters contain a considerable portion of azotic gas, which has escaped the attention of other chemists who have attempted to analyze them, owing to the imperfect knowledge which they then had of the properties of this elastic fluid,

fluid, for it is only lately that we have obtained any accurate notions concerning it.

Whether the azotic gas contained in these waters possesses any peculiar medicinal powers, I cannot say; for, I know of no experiments that have been made, which would warrant us in concluding either that it does or does not. By reasoning alone we may be led to think, (and the industry of philosophers may perhaps shortly prove) that this elastic fluid, which is more abundant in nature than any other, and which forms a principal constituent part of nitrous acid and volatile alkali, possesses no ignoble place in the animal economy. From some late experiments made by Dr. Priestley, it appears that a quantity of azote is subtracted from the atmosphere, and taken into the blood by the action of respiration, and we know that this substance exists in great plenty in the animal body, forming a great part of the volatile alkali which may be procured from all animals. It is by no means improbable that this fluid taken into the body together with the water, may be applied to this purpose.

With regard to the medicinal properties of
VOL. V. K the

the *sulphur-water*, it may be observed, that the salts with which the water commonly drank is impregnated, render it a mild purgative; it passes off quickly and easily, seldom occasioning the least pain in the bowels; hence it may be used either as a powerful evacuant, or as a gentle laxative. Its impregnation with hepatic air renders it one of the most powerful remedies in cutaneous complaints, that we are acquainted with.

When I published my Treatise on the Harrogate Waters, I proposed as a query, Whether the sulphur-water might not be prescribed with advantage in *colica pictonum*? Our grand indication in this complaint must be to remove or correct the exciting cause, which is the lead: any other indication can only be secondary or subordinate; for, it is most probable that all the symptoms will disappear when we have fulfilled this indication. The effect produced by hepatic air upon lead is remarkable, and I thought it probable that the lead being thus mineralised by sulphur, would lose much of its activity, as is the case with some other mineral substances. I have since met with two cases which had resisted the application of a variety of remedies,
but

but were speedily cured by the sulphur-water: the subject of one was a coach-painter, the other a lead-miner.

But though in most cases attended with an inflammatory state of the system, the sulphurated saline waters may be used with advantage, yet, in diseases depending on a relaxed or debilitated state of the system, they are improper. In these cases, however, we have a remedy in the chalybeate waters.

ARTICLE XV.

An Account of Experiments performed with a View to ascertain the Effect of the Nitric Acid upon Iron deposited in the Stomach of an Animal.

BY EDWARD HARRISON, M. D. MEMBER OF THE ROYAL ANTIQUARIAN SOCIETY OF SCOTLAND,—FORMERLY PRESIDENT OF THE ROYAL MEDICAL, AND ROYAL PHYSICAL SOCIETIES, AT EDINBURGH,—CORRESPONDING MEMBER OF THE LONDON MEDICAL SOCIETY, &c.

Read MAY 2, 1796.

A DOUBT having been entertained, by some eminent philosophers, whether it be possible to dissolve iron in the living body, without injury to the stomach, I am happy in being able to bring forward an experiment, which is to me conclusive upon the subject, and will, I hope, be equally satisfactory to the public. I regret, that some unfortunate circumstances have hitherto prevented my complete execution of the plan that I had determined upon; because I flatter myself that the method of cure, as it appears from the preceding

ceding case, will open a new mode of affording relief to our afflicted fellow-creatures.

In pursuance of this opinion, I trust it will soon be in my power to communicate a series of experiments with acids upon iron, and such other metallic bodies as are most likely to be found in the human stomach. In carrying them on I shall endeavour to ascertain the most eligible acids for the purpose, the proper quantities of each, and how they may be given, without injury to the constitution.

On Friday the 23d of October, seven cast-iron nails were stuck into a piece of liver, and given to an healthy dog. They weighed ninety grains, apothecaries weight, and were exactly like those described in the succeeding case of GEORGE HALL. I ought perhaps to have enclosed them in some article of food more soluble than raw, unmasticated liver; for, it will be found in the sequel, that two nails were mixed with the excrement, and, as the greatest part was voided during the first night, I think it probable that they were carried out of the stomach and bowels by a portion of undigested liver. On the next day he began with the diluted nitric acid, prepared according to the *formula*, and from the same bottle of acid that was used for GEORGE HALL.

On Saturday night he took zij. at once.

Sunday ————— 3jx. in three equal doses.

Monday ————— 3jx. ditto.

Tuesday ————— 3jx. ditto.

Wednesday ————— 3jfs. at four times.

Thursday ————— 3jfs. ditto.

Friday ————— 3jx. at three times.

It appears, as above stated, that in the space of seven days, the dog took seven ounces and six drams of the diluted nitric acid. From Saturday till Tuesday he suffered no inconvenience. He began then to cough after taking the acid, and, on Thursday, was observed to foam at the mouth after the last dose. Both these symptoms occurred on every subsequent exhibition.

But, when the acid had been swallowed only a few minutes, he became sportive and gay, as if nothing had been taken; and remained in perfect health till the next dose was forced upon him.

These were the only obvious circumstances that took place during the experiment. In the case of GEORGE HALL, the first symptoms were eructations of an elastic fluid, and, on these, epilepsy and hiccough were superinduced. But it ought to be remarked, that although

nearly the same quantities of acid were consumed in both cases, GEORGE HALL took more of it each day, and there was less iron to be acted upon. As the animal shewed a great aversion to the acid, after he had taken only a few doses, it is probable he felt some uneasiness from it, and this might proceed from griping at the stomach and extrication of hydrogen gas, as occurred to GEORGE HALL.

It was my intention to have given an ounce and a half of the mixture every day, at six equal doses, that the trial might agree in every respect with the case; but the dog manifested such distaste for the acid, that we determined to give the quantity in four equal doses. My professional engagements at that time detained me so much from home, that in the beginning he took only three doses in the day. These were followed by no particular symptoms, and probably, when acids are exhibited, it will be prudent in future to confine them to smaller doses. In this way I should hope the practitioner may continue his plan of cure for a longer time, and accomplish his intention without inconvenience to the patient.

During the whole process the dog lived on

K 4

strong

strong broths, and care was taken not to give the acid and nutriment near to one another.

As I was otherwise engaged, he was not killed before Tuesday morning, November the third. Upon discontinuing the acid he became free from cough, seldom foamed at the mouth, and seemed in good health. When he had been hung about half an hour, the examination was made, by laying him open from the mouth to the anus.

As he had been restrained from solid diet, the stomach, with the small intestines, were nearly empty. They exhibited no marks of disease. In the stomach was a little froth, such as was discharged upon taking the acid. The large intestines contained a small portion of *fæces*, but shewed no appearance of disease. In the colon we met with a little hard friable matter, which seemed to resemble the rust of iron, but, we discovered no other appearance of the nails, though such was our diligence, that I am satisfied not the smallest fragment could have escaped observation. We carefully preserved the *fæces* that were voided during the experiment, and passed them through a very fine sieve, upon a clean floor. In them were two nails in a perfect state, but it is doubtful

doubtful whether both came from this dog; for another to whom we had given a dose of nails in liver, remained one night in the chamber, and accidentally hung himself. When we took up and examined the excrement of both, I do not undertake to assert, from which of them the nails were expelled, I believe that each of them voided *one*: but, however that might be, the trial was equally satisfactory and conclusive. Let us assume the lowest calculation, viz. that only *five* nails out of seven were destroyed, the efficacy of nitric acid on iron in the stomach, appears to be fully confirmed, and the outline of a practice described, which will, I hope, in other hands, be improved, and found safe and useful.

I thought it necessary to trouble you with this letter by way of introduction to the case; for as I have reasoned myself into an opinion, that its publication may prove beneficial to society, I am unwilling to delay the communication, although the subject might be strengthened and illustrated by further experiments.

E. HARRISON.

Dec. 10, 1795.

ARTICLE

ARTICLE XVI.

A Case of Iron Nails dissolved in the Human Stomach, by Means of the Nitric Acid, without any bad Consequences.

BY E. HARRISON, M. D. &c.

Read MAY, 2, 1796.

GEORGE HALL, aged about 23 years, complains of pricking pains in his stomach, which hurt him upon motion, and especially on bending or stooping forward. In an erect posture he is pretty easy; but walking upon a pavement, or on a hard uneven road, gives him great uneasiness. Yesterday, May the 5th, he incautiously swallowed two nails, and a considerable portion of another. To these he imputes the complaint at his stomach. From his description they are made of cast iron, are about an inch in length, and have

have large heads and very sharp points. One, it appears, stuck in the *œsophagus*, and was forcibly thrust into his stomach by the probang. This operation, which was performed immediately after the accident, gave him great pain, and was followed by a vomiting of coagulated blood. He has not been sick since yesterday—has had a natural stool to-day. In other respects he enjoys a good state of health.

R. * Acid. nitros. ʒi. aquæ ʒj. m. capiat ʒij.
statim ex aquæ puræ cochl. j. amplo.

In a few minutes after taking the acid he felt a slight griping in the stomach, which left him without sickness, after two or three eructations of wind.

Capiat ʒij. m. ex aquæ calidæ ʒj. sed prius
adde T. Opii puri gutt. x. Repetatur dosis
istiusmodi sexies de die et nocte.

Tuesday, May 6, 1794. According to my

* The specific gravity of the acid of nitre sent over by
Dr. Harrison was 1.35.

desire

desire he has confined himself to a light farinaceous diet, and feels pretty easy at his stomach. He has taken the medicine regularly, and it occasions neither pain nor sickness. Pulse, belly, and urine, regular. Let the dose of the nitric acid be gradually and cautiously increased, till it occasion some inconvenience. Continue the tincture of opium.

R. Elect. e Senn. $\mathfrak{z}$ ij. Pulv. Jalap. $\mathfrak{z}$ ss. m. f.
Elect. de quo glutiat quantitatem nucis moschatae mane, si alvus astricta sit, et pro re nata, *repetatur* portio idonea.

Thursday, May 8. On Thursday afternoon he increased his dose from 120 to 130 drops. In a few minutes afterwards he fell down in a fit, which was attended with convulsions, and an abolition of sense, for nearly an hour. Since then he has only taken 120 drops. They give him no uneasiness or pain. Yesterday and to-day the drops have occasioned only a small eructation of wind. Before Thursday he never took them without belching air several times. Upon recovering from his fit, he declared that a nail had escaped from

from his stomach, and that he was sensible of its progressive motion towards the *anus*. Yesterday he felt a great deal of pain in the lower part of his body, for several hours, which went away on his voiding one of the nails by stool. It is very rough and uneven, with several deep holes in various places. The point, with about one-sixth of an inch from the small end, is quite consumed, and the head is also much wasted. His stomach is now very easy, and he feels none of the pricking pains that were formerly so troublesome upon the slightest motion.

May 10. Since Saturday afternoon he has not been troubled with wind after taking the nitric acid, nor has he felt the smallest pricking in his stomach. In proportion as these symptoms disappeared, the acid has produced more powerful effects. The third dose on Sunday was followed by such a violent and continual hiccough, that he could get little sleep or rest, and was obliged to walk about the greatest part of the night. Yesterday he was much easier, and to-day there is still less of the hiccough. He has discontinued the acid since Sunday at noon, and is desired not to take any more, without further orders. His
7 appetite

appetite is unimpaired, but he has not indulged much in solid diet. Pulse, body, and urine, natural.

Capiat gutt. x. T. Opii puri ex quovis vehiculo idoneo ter, quater, vel sæpius, si sit necesse, de die et nocte.

May 13. His hiccough is entirely gone; he thinks himself quite recovered, and has been at work several days.

May 20. Though the greatest attention has been paid to his *fæces* since the accident, he has not discovered any appearance of the other nail; nor has he felt the smallest uneasiness in his stomach or bowels from the time that the hiccough left him.

June 30. He has enjoyed an uninterrupted state of good health ever since the last report. Nothing has been seen of the nail, nor has he felt any uneasiness from it.

May 5, 1795.

The whole quantity of diluted nitric acid taken was as follows.

On Tuesday,—3vij. at four times.

Wednesday,—3iss. at six doses.

Thursday,—3iss. and twenty drops, at ditto.

Friday,

Friday,— $\mathfrak{z}$ iss. and twenty drops, at six doses.

Saturday,— $\mathfrak{z}$ iss. ————— at ditto.

Sunday,— $\mathfrak{z}$ vj. at three doses.

In all he swallowed seven ounces, five drams, and twenty drops, of the medicine.

When I was consulted in the case of GEORGE HALL, I found myself much at a loss for a method of treatment that promised to be successful, without injuring the stomach or some other part of the alimentary tube. The size and pointed form of the nails deterred me from every attempt to remove them by vomits, or purgative medicines. To increase or disturb the actions of the first passage seemed to me extremely dangerous, so long as these foreign bodies were lodged any where in the stomach, or intestinal canal. For, on a careful examination of similar nails, it appeared to me, that their sharp points were more likely to be forced into the coats of these delicate organs, than expelled from them by violent means. Every endeavour of this kind therefore appeared to be attended with so much uncertainty and danger, that I was discouraged from the trial; nor did I expect more success from oily and mucilaginous medicines.

medicines. It occurred to me that a cure might be undertaken by chemical agents, with less hazard to the patient, and greater prospect of success, than by any other remedies. Impressed with this idea, I made choice of the nitric acid for the purpose; and, from the result of this experiment, I am inclined to recommend it, in similar cases, to the attention of medical practitioners. Experience has proved that diluted nitric acid may be taken into the stomach, and repeated in certain doses, without any detriment to the human frame; but, I was of opinion, that here it might be administered in greater quantities, because I conceived that its proper action as an acid would be restrained and altered by its chemical union with the particles of iron in the patient's stomach. And in this I am inclined to believe my opinion was well founded; for during the first three days the medicine never produced any violent symptoms. Eructations of an elastic fluid were the only consequence; and this I assume as a strong proof that a combination was then forming in the stomach, between the acid and nails. For whenever these substances are mixed together out of the body, a separation of nitrous, and

and perhaps of azotic gas, never fails to take place, which continues to be extricated so long as they act upon each other. In this manner I conclude the copious eructations were produced on exhibiting the solvent, till, by taking an increased quantity, he became afflicted with convulsions, and, in this state, protruded the fragment of one nail into the intestines. From this period, the evolution of air was less considerable, and the effects of the acid more powerful. This may be collected from the reports, and affords another argument, that the acid actually combined with the iron; for it is an established fact, that the operation of acid bodies is weakened by chemical union. In confirmation of this opinion, I might adduce many compound salts in the materia medica; but the fact is so well established, that I think it unnecessary to enter further into the subject. But probably the great diminution of bulk in the nail that was avoided, and the patient's having felt no subsequent uneasiness, will appear to afford the most complete evidence that the other nail was dissolved in the stomach. Such a combination, according to the laws of chemistry, necessarily involves the complete loss of aggregation.

gregation in the nail, and the production of a new compound.

That nitrated iron would be the result of this operation struck me forcibly, when I first determined on the mode of treatment and increased my embarrassments; for, as I was unacquainted with the operation of this substance on the nerves of the stomach, I was afraid it might be attended with pernicious consequences. To guard against these, I administered the first dose myself, and charged the patient to apply to me for directions, provided he afterwards experienced any violent or new symptom, from taking the mixture. With these cautions, which were repeated at every subsequent visit, I was obliged, from his residence in the country, to confide to himself the immediate management of his case; and he, anxious to obtain a speedy cure, continued the usual quantity after hiccough had supervened; and, from my permitting him at a former period to increase the nitric acid in a gradual manner, he imprudently ventured to take ten additional drops of it at the next dose.

To this inattention I impute the epileptic paroxysm, and also the singultus under which he

he laboured several days after the acid had been discontinued, and the original complaint removed. Had he been more cautious, I flatter myself that a cure would have been obtained, without the occurrence of any unpleasant symptom.

Iron has a disposition to unite with most acids; and therefore, it may appear a little extraordinary that I should prefer the nitric acid before some others, that are known to produce harmless combinations with this metal. The vitriolic acid has the most powerful attraction for iron, and forms with it a substance well known in medicine and the arts; but this compound, instead of diffusing itself speedily through the incumbent fluid, and thereby giving an opportunity for the action of fresh particles of the acid, rests upon the iron like a crust or film; and thus defends it, in a great measure, from the further action of solvents. I believe the nitric will be found to act more briskly upon iron than any other acid, and to constitute with it a saline compound, that has a greater disposition to diffuse itself through the surrounding vehicle, than any other preparation of this metal. A few comparative

trials lately instituted with different acids confirm this opinion, and encourage me to give it a decided preference on similar occasions. But, as these experiments are not yet ready for publication, they shall be made the subject of another essay.

For these reasons I was induced to prefer the nitric acid to every other solvent, and the event of this trial seems to justify my choice; and as my only intention in relating this case was a desire to be useful, I submit the statement to an indulgent public, in the hope that it may prove serviceable to others.

Practical writers have recorded numerous instances of metallic bodies being swallowed, and occasioning to the sufferers no small degree of uneasiness and alarm. To be enabled to moderate them on rational grounds must afford the highest gratification to a benevolent physician; and if the practice recommended in this paper, be found to succeed on further trial, it may encourage an attempt to remove other offending matters, by the operation of chemical agents. Pins, needles, &c. and coins of gold, silver, and copper, of various sizes, have often remained in the stomach for a great length of time; and, in some instances,
§ their

their retention has occasioned very distressing symptoms, terminating in fatal consequences. In such cases, I perceive no objection to a prudent endeavour being made to dissolve any of them, when their removal cannot be safely confided to other medicines, or, when the trial has not been productive of the wished-for relief.

When we resolve to administer an acid with this intention, we must be determined in our choice by the nature of the metallic matter. For the attraction between acids and metals presents such a variety of interesting particulars, that to enumerate them here would seduce me beyond the limits of a single essay, and lead to an inquiry, which I conceive does not properly belong to a *medical* dissertation.

ARTICLE XVII.

Account of a Case of Scirrhus Pylorus.

[In a Letter from Dr. J. E. HARRISON, of PHILADELPHIA, to Dr. NATH. HULME.]

Read APRIL 18, 1796.

SIR,

Philadelphia, Nov. 13, 1795.

THE following appearing to me to be an extraordinary case, I have sent it to you to be presented to the Medical Society of London.

I am your most obedient servant,

J. E. HARRISON.

MRS. BOWYER, of this city, aged 57, had been afflicted above a year with cardialgia, flatulencies, a slow fever, and frequent vomitings. She was not thirsty, her body was open,

open, pulse flow but regular, her tongue somewhat white, and towards morning dry.

Sept. 29, 1795. I directed her to take at bed-time four grains of James's powder, which producing no sensible effect, was afterwards increased to six grains, and continued regularly until the 8th of October, but without any advantage to her. As she laboured under great debility, I then directed a tonic medicine, consisting of vitriolated iron, myrrh, and tincture of bark; and, as she generally brought up after her nourishment, which was chiefly water-gruel, a quantity of porraceous bile, I advised an emetic of ipecacuan, which operated moderately.

October 12. She was ordered to take 3 gr. mercur. dulcis, with 10 gr. of rhubarb, which producing no effect, was repeated the next day somewhat stronger, but without effect, being brought up by vomiting a few hours after taking it. To allay this last symptom, a solution of conserve of roses, with the addition of vitriolic acid and opium, was also tried, but in vain.

After this she became much reduced, living entirely on water-gruel. One grain of vitriolum coeruleum was taken in a pill, but

shortly after rejected with some seeds of water-melon, swallowed the preceding August. This occurred on the 20th of October. Imagining that I now perceived an hardness of the pylorus, I directed a dram of ung. hydrarg. fort. to be rubbed every night on the region of the stomach, and, for the purpose of nourishment, glysters of mutton broth to be given three or four times in the day, which seemed to be beneficial to her, as her pulse became stronger. In this state she continued vomiting up the seeds of melons and grapes, using no medicine but the liquor. cornu cervi to relieve cardialgia and flatulency, and opium to procure sleep. By a shameful neglect of her attendants, the nourishing glysters, which were her sole support, were not regularly given. Delirium, from time to time, supervened, and the bilious vomiting continued. In this manner, with the addition of an aphthous state of the tongue, she remained until the 7th of November, when she died.

The next morning I opened the body in the presence of several medical gentlemen. The heart and lungs were perfectly sound, the stomach appeared much enlarged and distended with flatus, containing also a quantity
of

of foetid ropy matter. The pylorus was scirrhous, and the passage into the duodenum scarcely pervious to a goose-quill. In that passage two damson-stones were impacted, so as to close it. The liver seemed sound, but in the *vesica fellea* was a gall-stone of the size of a mulberry. The pancreas was enlarged, and the mesenteric glands indurated. The intestines appeared in their natural state.

Did not the long continued practice of swallowing fruit-stones lay the foundation of this complaint in advanced years?

ARTICLE XVIII.

A Case of Fistula in Ano, from an uncommon Cause.

By E. HARRISON, M. D. &c, &c.

Read JUNE 9, 1796.

ON the 25th of June 1793, I was desired to give my opinion in the case of Mr. Baldock, a carpenter, aged about 40 years, who had for several months been troubled, as he said, with a fistulous ulcer at the back part of the fundament, a little above the *sphincter ani*. Notwithstanding the inflammation and increased thickness in consequence of it, I could pass the probe in an ascending manner towards the rectum, upwards of an inch, with great ease. Here the sinus appeared to terminate; nor could I get the probe any further, although I made repeated efforts to push it into the intestine, with which I suspected

pected a communication. Having put the patient to some pain, I desisted from further trial, and desired him to examine his *faeces* to see whether they were mixed or streaked with purulent matter. The next stool ascertained the existence of pus, and determined me to make another attempt to find a passage into the rectum. When I had again reached the place, where the probe formerly stopped, I urged it with a greater effort, and the obstruction giving way, the instrument passed without further trouble. I was sensible when it penetrated the resisting body, which at the time appeared to me like the *os unguis* of the ethmoid bone. This I mentioned to the gentlemen present, and afterwards we all perceived the grating against an hard brittle substance as the probe was passing into, or withdrawing from the rectum, with which a communication was then open. In a few days the operation for a fistula was performed in the usual manner, a little above the *sphincter ani*; and, upon taking away the dressings on the third day after, we were surprised to find the core of an apple or pear among them. This brought to my recollection the circumstance that occurred on examining the wound previously

previously to the operation, and which I could not account for at that time. After washing the core we could clearly perceive where it was broken by the probe in its passage to the rectum. The wound healed in a short time, and the patient has ever since enjoyed a good state of health. When I inquired more particularly into what could occasion such an unusual *phænomenon*, he replied, that about eight months before I was consulted, he remembered to have eaten two or three apples, but could not recollect whether he swallowed the cores or not. He was confident that he had never tasted either apples or pears at any subsequent period. The disorder had continued about thirteen weeks, when the operation was performed; and therefore originated in a cause that must have existed at least eight months before.

Many diseases are occasioned by taking into the stomach matters that escape the solvent powers of the gastric juice. These by acting as nuclei, or, by stimulating the intestines in their progress towards the *anus*, have laid the foundation of various complaints, which afterwards baffle the skill, and resist the practice, of the most able physicians. Authors have
recorded

recorded such a long catalogue of these cases, that it may appear unnecessary to add another to the list; but, as far as my reading enables me to judge, no one has enumerated the cores of apples or pears among the causes of *fistula in ano*; and as it is an opinion with many, that the kernels of fruit contribute materially towards digestion, it appears of consequence to publish every fact that is calculated to remove this unhappy prejudice.

That inflammation and suppuration of the intestines may arise from the mechanical stimulus of an apple-core, will be readily admitted; nor shall we find more difficulty in accounting for its acting as a cause of fistula in this case. After being received into the stomach, it would be carried with the other indigestible matters into the intestines, where the peristaltic motion would gradually urge it towards the *anus*. During this progress, the *faeces* acquire a greater consistency, and, before expulsion, they often become so hard and firm as to require no small straining to force them through the ring. Such strong efforts are sufficient to impel any hard and rugged body against the rectum, and especially where it is surrounded by the *sphincter ani*,

ani, with force enough to bruise and enter the substance of the intestine. When once lodged there, the ordinary inclinations to go to stool, and irritations from the offending substance will be more likely to thrust it further into the coats of the gut, than change its direction towards the *anus*. Inflammation and suppuration, the natural consequences of such a process, when they attack the lower part of this intestine, are commonly followed by sinous openings about the fundament. In this manner I account for the origin of *fistula in ano* in the present case; and heartily wish the recital of it may operate to discourage the too prevalent custom of swallowing the indigestible cores, or kernels of fruit, along with their esculent and soluble parts.

ARTICLE XIX.

The Cases of two Children who received the Small-Pox by Inoculation without previous Inflammation round the Incision, with a few Observations on that Disease.

By THOMAS WHATELY, SURGEON.

Read AUGUST 1, 1796.

ON Monday the 16th of January 1796, I inoculated two children of Mr. Dennison's, butcher, in Gray's-Inn Lane Road; the one four years old, the other fourteen months, and at the breast; both were inoculated in one arm with a separate lancet dipped in variolous matter the day before. The arm of the eldest inflamed at the usual time—that of the youngest not shewing any appearance of inflammation, I concluded the child had not taken the infection; on the ninth day, however, she sickened with the eruptive fever, and on the eleventh a very moderate number of the pustules appeared on the body, and
about

about twenty in the face. The eldest had the eruptive fever, and about the same number of pustules, on the same days as the youngest. The incision on the arm of the elder inflamed as usual; but there was only a very small dry and brownish scale or scab, on the inoculated part of the younger, about the size of a very small pin's head, unattended by the slightest inflammation from the day she was inoculated until the fourteenth day, when the eruptions in both children were completed, and advancing fast to maturity. I saw the arm in the above state on Saturday, the thirteenth day from the inoculation, and the third of the eruption. Dr. Woodville saw it also in the same state on that day, but the next morning there appeared a small inflamed pustule, as it were, on the inoculated part, which went on to maturation with the others. The pock turned in both the children on the seventh and eighth days of the eruption, and both recovered at the same time, without confinement. It may be proper to remark, that Mr. Dennison's house is nearly detached from other inhabited houses, and that the small-pox was not at that time in any part of the neighbourhood where they have

have a communication ; and as the child was at the breast, Mrs. Dennison is the more certain that she had not been near any one who had that disease.

In the year 1785, I inoculated at the same time two children of Mr. Snow's, then living in Basinghall Street. In one the arm inflamed, and the child went through the disease in the usual manner. In the other the arm had exactly the same appearance as Mr. Dennison's youngest, except that no pustule appeared on the inoculated part, nor was there the smallest inflammation on the arm through the whole progress of the disease. This child had the eruptive fever, and subsequent pustules, only one day later than the child whose arm inflamed, and in all respects went through the disease as children usually do who have the small-pox favourably from inoculation, having only ten or twelve pustules in the face. In this case also the small-pox was not in the neighbourhood, nor were the children inoculated from any apprehension of their having been exposed to variolous infection.

From these two cases I think it may be safely concluded, that there is a possibility

of the small-pox being communicated by inoculation, without any inflammation being excited in the part through which the variolous matter was received into the constitution; and although I am well aware that no great practical use can be made of this discovery, it is however of some importance that we should notice every different variety in the operations of nature. Something analogous to this I have several times seen in the venereal disease, where buboes have appeared without external sore or gonorrhœa *; and I have seen some cases when it seemed pretty certain that venereal virus had entered the system without the least appearance of previous bubo, or any topical affection †.—And though different poisons have their different actions and effects on the body, either when applied

* Mr. J. Hunter has noticed similar cases in his *Treatise on the Venereal Disease*; his words are in his account of bubo: "The first and most simple is, where the matter either of a gonorrhœa or chancre has only been applied to some sound surface, without having produced *any local effect on the part*, but has been absorbed immediately upon its application.—Instances of this I have seen in men." And afterwards he says, "I think, however, I may venture to affirm, that I have seen it in women."—Page 256.

† Dr. Swediaur has remarked the same in both these ways. See *Treatise on the Venereal Disease*.

externally or when absorbed, some exciting a temporary, and others a more lasting affection, according to the peculiar tendency and effect of each on the human body; yet from the readiness with which the absorbents take up many different matters, when applied to their mouths, especially by a cut surface, we may readily suppose that a particle of matter of the small-pox may be carried by the absorbents into the blood from such a surface, without first producing topical inflammation, though the latter is the usual way in which this poison acts when applied externally. It will probably be thought of very little consequence in what way the variolous matter is introduced; but if one method shall be found more certain of communicating the disease, without in the least increasing its virulence, it will, doubtless, be preferred.

Mr. Sutton makes use of a puncture, that is, he insinuates the point of an infected lancet, between the *epidermis* and the true skin, so as just to draw a little blood or serous moisture. Baron Dimisdale introduces the point of a lancet dipped in variolous matter obliquely, between the *cuticula* and *cutis*, so as to make the smallest puncture possible, rarely producing

ducing a drop of blood. It has been my practice for many years to draw the edge of the dipt lancet in a transverse line, in the usual place of the arm, to the extent of one-eighth or one-fourth of an inch, and so slightly, that the blood may just appear in the incision, and then to wipe the matter from the lancet, either in its dry or fresh state, upon the wound. In this way, by taking in a much greater number of the mouths of the lymphatics, inoculation may, I apprehend, be practised with more certainty of giving the disease. I mentioned this some years since to a gentleman who has an extensive practice in this line; and he informs me, that since he has adopted this method, all his patients have taken the infection by the first inoculation, though before he was frequently disappointed; nor has he found the disorder more virulent, or any inconvenience from the ulcer afterwards.

ARTICLE XX.

Cases of Cynanche Trachealis, successfully treated, with Observations on that Disease.

By HENRY FIELD, APOTHECARY, SEC. M. S.

Read OCTOBER 31, 1796.

THE Medical Society having honoured me by their approbation of a former paper on the subject of *Cynanche trachealis*, I am induced to offer them some additional observations on the same disease, which I am more particularly encouraged to do, by having had the happiness to succeed in a few cases, minutes of which I have preserved; and being also desirous of communicating some remarks on the mode of treatment which I have lately pursued, and which I flatter myself may be a means of diminishing the mortality of that dangerous disease.

Since the publication of the fourth volume of the Society's Memoirs, five cases of croup

M 3

have

have fallen under my observation, four of which have terminated favourably ; the particulars of them I shall now relate.

CASE I.

I. B. a stout healthy boy, of the age of five years, had laboured near a fortnight under symptoms of cold, but not in a degree sufficient to give any alarm to his parents, until Sunday, November 9, 1794 ; on which day he walked about a mile to the house of a relation, where he became feverish, and his cough (some degree of which had been perceived several days) increased considerably, accompanied with a kind of sound which induced his female relations to suppose that the whooping-cough was coming on ; however he was not at that time ill enough to prevent his walking home in the evening. The next day, Nov. 10, he was in every respect much worse. In the evening, being sent for, I found him labouring under a considerable degree of *pyrexia*, pulse 140, breathing very quick and laborious, cough frequent, and croup-sound very audible, throat somewhat inflamed, but without ulceration or incrustation,

tation, tongue white and much furred. Between four and five ounces of blood were immediately taken from his arm, a large blister was applied to the *sternum*, considerably below the seat of the disease, and one grain of ipecacuan, with six drops of tincture of squill, was directed to be given every six hours. Nov. 11. He has slept much at intervals, pulse 140, respiration somewhat easier with less sound; he has vomited twice, and brought up much viscid mucus, but has had no stool, the throat less inflamed and free from slough; he sweated much during the night, the blood drawn from the arm was natural in its appearance. The same medicines were continued, and he has drank plentifully of linseed tea with honey and lemon juice. Nov. 12. Has vomited several times since yesterday the same kind of viscid mucus, respiration freer, cough frequent, but not accompanied with much noise, pulse 130, skin moist, and throat less inflamed; he continues to drink freely; having had but one stool since yesterday morning, a laxative medicine was ordered, and the other remedies persisted in, with a small diminution of ipecacuan. Nov. 13, The vomiting has ceased

M 4

since

since yesterday, respiration nearly the same, as is likewise the cough, with but little of the croup-sound; an eruption, resembling the measles, appeared on the skin this morning. Nov. 14. The measles were now full out upon him, respiration became easy, cough frequent, but free from shrillness, fever and every other unpleasant symptom abated. From this time every appearance of danger ceased, the measles ran their usual course, and the patient gradually recovered.

CASE II.

W. A. aged about five years, a weakly delicate boy, was in perfect health until November 12, 1795; in the evening of which day he was suddenly attacked with fever, cough, and difficulty in respiration. Being immediately requested to visit him, I had no doubt in considering his disease as the *cynanche trachealis*, the croup-sound being present in a considerable degree. Four ounces of blood were instantly taken from his arm, and the following medicine directed to be given him, viz. ℞. calom. ppt. gr. vj. pulv. antimonial. gr. j. ft. pulvis in iv. chartulas dividendus

videndus quarum capiat unam. quartâ quâque horâ. Nov. 13. The patient was almost immediately relieved by bleeding, and passed an easier night, than from the violence of the attack could have been expected; every symptom was much abated, and the medicines were continued with the omission of half the quantity of calomel. Nov. 14. No aggravation of the disease had occurred; on the contrary, from this time the amendment was gradual and progressive, and the child in less than a week restored to health.

CASE III.

S——, a female child, aged 18 months, was attacked with the croup late in the evening of Tuesday, June 21, 1796. The parents having had the misfortune to lose a child in the same disease about a year before, were presently aware of the dangerous nature of it, and applied for assistance that night, when a vesicatory was laid to the pit of the stomach, and tartarized antimony exhibited in sufficient quantity to excite vomiting, proper attention being at the same time given to the state of the bowels. I visited the child for the first time about ten the following morning. The symptoms

symptoms of the disease were clearly marked, considerable *pyrexia*, cough, difficulty of breathing, and crouping noise. Two ounces of blood were immediately drawn from the arm, by which the patient was greatly, and almost instantly, relieved. Tartarized antimony in doses of one-eighth of a grain was given every three hours, and the following embrocation directed to be applied to the throat, by means of linen cloths, wetting them so frequently as to keep them continually moist, viz. ℞. sp^t. æther. vitr. comp. —aq. ammon. acet.—aq. puræ. aa ʒj. M. The whole of this was consumed in the space of 24 hours: vomiting was excited by the antimony once or twice, and one stool procured. A gradual mitigation of the disease continued until the evening of the next day (Thursday, 23d June), when a considerable exacerbation of symptoms took place, the crouping cough and difficulty of respiration greatly increased. Three leeches were then applied to the *sternum*, the antimonial given in an emetic dose, and the other remedies continued. These means were attended with the desired success, an alleviation of the disease was again obtained, and the next day (Friday)

(Friday) she appeared to be in so fair a way of recovery, that the embrocation and antimonial medicine in small doses were directed to be continued as at first. On Saturday there was a considerable pyrexia and heat, and, at the same time, much languor; she coughed frequently with a slight degree of crouping: having had no stool since Thursday, an opening medicine was administered in addition to the former plan of treatment, which was still persisted in. Beef-tea was now allowed, her diet having been hitherto confined to barley-water, milk, and simple diluents only. After this time nothing occurred deserving particular notice; the disease gave way gradually, although slowly, it being ten or twelve days before the cough entirely left her.

CASE IV.

— S. a sister of the last-mentioned patient, about eight years of age, was attacked on Monday 27th of June, with the same disease; the symptoms in this case were slight compared with the former, but, nevertheless, quite sufficient to ascertain it,

it, even if it had not followed so soon after the other, and in the same family; and indeed, it is more than probable, that the very early application of remedies, by arresting the progress of the disease in the very first stage, was no small cause of its mildness. Venesection was directly performed, but the quantity of blood procured that way being small, and judged insufficient to answer the purpose proposed, it was followed by the application of six leeches, a quarter of a grain of tartrized antimony was given every four hours, and an embrocation of the same nature as the former, but stronger, was made use of, and in the same manner, viz. ℞. Aq. Ammon. acet. ℥ij. sp̄. æther. vitr. comp. ℥j. M. The patient was so much recovered by the next day, that no other alteration was judged necessary in the remedies, but the addition of a little rhubarb as a gentle laxative. The same plan was pursued two or three days longer, and a perfect cure ensued.

It will be proper here to take notice of an objection which may be made to the first of these cases, that being followed so immediately by the measles, it might be only a higher degree of the catarrhal affection which
constantly

constantly precedes that disease, and not a true *cynanche trachealis*. In answer to which, I would observe, that although those catarrhal symptoms do constantly appear for some days previous to the morbillous eruption, yet that their first attack is but slight, and that they gradually increase until the time of the eruption; at which time, and not before, they attain their height. An attentive observation of the above case will shew, in opposition to this opinion, that the symptoms of croup were at the worst at least three days before the smallest appearance of the measles, and that they were in fact so much diminished, as to be almost removed before that period. This case must certainly be considered as somewhat complicated; I am, nevertheless, fully satisfied, that that state of tracheal inflammation characteristic of *cynanche trachealis* was present, and that it is therefore justly entitled to be classed with that disease.

Previously to entering upon those practical observations which are designed to accompany these cases, it will not, I trust, be deemed totally uninteresting, to premise a few remarks on the different kinds of disease which have been known under the general
name

name of croup, and also on the nature of the malady as to contagion.

It has been stated by authors, that there are two kinds of this disease, the one spasmodic, and the other inflammatory. Of the propriety of this distinction, I am at present well satisfied, and am only concerned, that two diseases, so extremely different in their causes, and consequently in their mode of treatment, should be confounded under one and the same title; a circumstance which has an evident tendency to mislead the practitioner, and which has undoubtedly been the reason why we find such very opposite modes of cure recommended by different writers, and each with a confidence derived from some degree of experience.

That the symptoms of the two diseases bear considerable resemblance, will readily be allowed; nevertheless, there are evidences of difference, I think, sufficiently strong, to enable an attentive person to discriminate them. These marks of distinction I shall endeavour now to describe, and to give them the greater effect, shall contrast the one with the other.

The spasmodic croup always attacks suddenly,

denly, and usually in the night. The attack of the inflammatory croup is sometimes equally sudden, but more generally gradual, being preceded a few days by slight feverish symptoms, and a teasing short cough, not however sufficiently important to create the smallest uneasiness in the friends of the patient. The spasmodic croup often intermits, and in these intervals, both the respiration and the cough, if any exists, are free from its usual characteristic sound; the inflammatory, on the contrary, when once completely formed, never intermits so as entirely to lose its distinguishing mark, particularly in coughing; add to which, the heat, frequency of pulse, and other symptoms of *pyrexia*, are found in the latter in much greater degree than in the former. Dr. Rush* has mentioned several other marks of difference, but as they apply chiefly to the effect of remedies, and to the later stages of the disease, it is not judged necessary to insist upon them here, it being in the first attack of this malady that a due discrimination becomes so ex-

* Vide Medical Inquiries, by B. Rush, M. D. vol. i. p. 141.

tremely

tremely important, that being the time in which the application of powerful and decisive remedies is most conducive to the relief of the afflicted, a delay of a few hours being frequently the cause of irreparable injury.

Every author, that I am at present acquainted with, has denied this disease to be of an infectious nature. In a former * paper on this subject, I have taken the liberty to suggest my doubts as to this opinion being well founded, for which I have there assigned reasons; since that time my particular attention has been given to that point, and I am sorry to add, that increased experience has tended to confirm me more strongly in the opinion, that the true *cynanche trachealis* is a contagious disease. I have since met with repeated instances of its occurring in the same family, and that after such an interval as we most usually find contagious diseases to require in order to produce their morbid effects, namely, from six to ten days: whether the above opinion be well or ill founded, I would strongly recommend to practitioners to avoid

* Vide Memoirs of the Medical Society of London, vol. iv. p. 151.

the danger of communication by requesting that every child may be removed, if possible, from the same house: or, at all events, be prevented entering or coming near to the sick chamber.

It has been said that this disease has occasionally been met with in adults; when this has been the case, I am very much disposed to think, that it was not the inflammatory, but the spasmodic, croup; in confirmation of which opinion, I have never heard of its having proved fatal to them.

The first and most important curative indication in the treatment of the true or inflammatory croup, (for to this our present observations will be confined) is to diminish the quantity of blood. In the paper on this disease, which the Society have done me the honour to publish in their Memoirs, I gave a caution against the use of the lancet, from an apprehension that the early debility, which had been observed to come on, would render general bleeding an unsafe and improper practice, and that our evacuation of blood should be only topical by means of leeches; which, however, was advised to be freely and vigorously pursued. Since that time I have had

opportunities of observing, that the lancet may not only be safely, but even advantageously, employed, and that it should never therefore be omitted, when medical advice is required in the earlier stages of the disease, from two to four or five ounces of blood being taken away, according to the age and strength of the patient; much caution is nevertheless requisite in repeating this operation. If any abatement of symptoms takes place after the first bleeding, which frequently happens, I should certainly think it unnecessary to repeat that evacuation; but if an evident exacerbation should afterwards come on, it will be generally proper to do so: in this case a topical discharge, by means of leeches, appears to me much to be preferred to a general one. Allow me here to give a caution relative to the prognosis in this disease. The means now recommended in the early stage of it, being frequently followed by a considerable and very flattering appearance of recovery, the practitioner may be so far deceived as to be encouraged himself, and, in consequence, to encourage the friends of the patient, with great expectation of a favourable issue; but in this he cannot be too much on his

his guard, nor should he consider the danger to be past, until three or four days have elapsed without a return of symptoms, by which time the patient will have made considerable progress towards recovery.

Our next subject will be an inquiry into the use of blistering in the cure of this disease. I have, on a former occasion *, taken notice of Dr. Home's objection to the early application of blisters to the affected parts, as liable to do injury by their immediate stimulus. I am well satisfied, from later observations, that this objection is well founded, although sufficient attention does not seem in general to have been given to it; and whoever considers the extreme vicinity of the diseased part to the external surface of the throat, must surely coincide with me in opinion, that the application of a blister immediately to the part must act as a local stimulus, and therefore must increase, rather than diminish inflammation. Vesicatories should, for these reasons, be either entirely omitted, or else applied only to distant parts. Whether they will in the latter case be of any service,

* Vide Med. Soc. Memoirs, vol. iv. p. 159.

I am at present unable to ascertain. Blisters were applied in only two of the present cases, and in those there is not the smallest reason to suppose, that they contributed in any degree to the cure: in the last of the two the blister scarcely took any sensible effect on the skin.

The situation of the trachea with respect to the external integuments, which I have above alluded to, suggested to me an idea that refrigerating, and also sedative remedies, might be used externally with advantage. In the third and fourth cases now recited, I made trial of an embrocation with that intention; how far the success of those cases is to be attributed to this remedy, it is impossible to say; it is sufficient, however, to enable me to recommend this and similar applications to further trial, and also emollient and sedative cataplasms and fomentations. The occasional use of emetics so as to produce their full effect, and their constant use so as to excite nausea, as far as has hitherto appeared, seems to be attended with good consequences. The body should be kept at all times in a soluble state, but any considerable evacuation by stool is better

ter avoided, its immediate tendency being to debilitate, without apparent advantage, in relieving the patient. The warm bath, either partial or general, may be employed with probability of benefit.

ARTICLE XXI.

Description of a particular Species of Erysipelas.

CASE I.

An Erysipelatous Inflammation, in a Child only twelve Days old, which proved fatal; and appeared, on Dissection, to be connected with a morbid State of the Stomach, resembling that described by Mr. Hunter, as the Effect of the Gastric Juice.

By THOMAS WALSHMAN, F. M. S.

Read APRIL 21, 1794.

AN account of this disease, and of some other infantile ones, I had thoughts of laying before the public some years ago, but, upon Dr. Underwood's Treatise appearing, I gave up my intention.—However, as the Doctor has only very cursorily described this disease, and has not given the appearances upon dissection, these

these observations may probably not be deemed unworthy of your attention.

CASE.

N. N. a fine healthy female child when born, March 3, 1785, the third day of her birth, had several small pustules on different parts of her body, which soon suppurated. One of them, however, situated on the back part of the neck, accompanied with more inflammation than the rest, terminated in an abscess, which broke the 9th of March, and a small quantity of ill-conditioned matter escaped from a very small aperture.

On the 10th, several similar pustules appeared. On the 12th there was great oppression of breathing, and a very weak pulse, hardly to be felt—the child was in a very insensible state.

The inflammation accompanying the abscess, soon became erysipelatous, and extended from the pustule round the neck, to the sternum; a quantity of bloody ichorous matter, mixed with particles of oil, oozed out.

There was another cavity communicating with the same abscess, which bent its course downwards as far as the scapula. The teguments covering this ulcer were very painful on being touched, and of a dusky red, almost approaching a livid or blackish hue.

I now administered bark with cordials, as much as the stomach would bear, and fomented the part affected with the common fomentation, to which was added camphorated spirit; and, after every fomentation, a bread and milk cataplasm was applied. 13th, The inflammation and tumefaction abated, but the discharge from the ulcer remained ichorous, and in great quantity. The insensibility was nearly removed—remedies continued. 14th, Inflammation still abated, the discharge diminished, and was more similar to pus—and from the 15th to the 18th, the symptoms continued to abate, and good pus was discharged from the ulcer; the remedies were continued all this time.

From the 18th to the 22d, the symptoms remained much the same; the ulcer in the neck healed, but the erysipelatous inflammation of the skin spread; her stools became too frequent, and of a mucilaginous consistence.

Pulv.

Pulv. rhabarb. cum magnes. & pulv. aromat. were now directed, occasionally continuing the cort. peruv. with conf. arom. and tinct. opii camph. and to the spreading inflammation the saturnine lotion with camphorated spirit, was applied.

The 24th, the ulcer on the shoulder healed, but a small aperture near the clavicle, discharged a little pus. The erysipelatous inflammation continued to spread, extending over both shoulders, arms, &c. Cortex peruv. conf. aromat. & lotio saturnin, were continued.

26th, Inflammation on the skin continued to spread, but not so violent as to blister the cuticle. Remedies continued. 28th. Inflammation spread over the *nates* and groins, and one thigh; wherever it had been it left the cuticle in a furfuraceous state. On the left shoulder, where the cavity of the ulcers were, the teguments were thrown into wrinkles or folds, and were in that state united. The ulcer anteriorly continued to discharge; the countenance became now pallid, with an expression of much anxiety in it; she moaned much, as if in great pain. The stools were numerous, watery, and of a greenish colour. She appeared to have a
8 craving

craving for food, but when any was offered, a nausea was induced which rejected it; this occurred the last two days; and she slept very little. Pulv. rhabar. cum magnes alb. & pulv. aromat. rep^r. also the mistur. cretac. cum tinct. opii camphor. to be given after every loose stool, and the cortex cum opio et conf. aromat. continued.

30th. The right thigh, leg, and foot, were much inflamed, swelled, and hard to the touch, similar to the *adeps* in a dead body; the inflammation now attacked the left thigh a little, and the backs of both hands, but the left most severely; the appetite as yesterday, stools not so numerous nor so green, sleep but indifferent; the remedies were continued.

April 1. The inflammation attacked the *pudendum*, thighs, and legs, also the scalp and sides of the face, and an abscess formed on the cubit, and appeared as if ready to break. Last night the respiration became quick; there was frequent moaning, intermixed with shrieks, during the night; she nauseated every thing offered, both food and medicine; the stools increased, and were still of a porraceous colour; the belly was hard and inflated, and the urine yellow.

April

April 3. She lay all yesterday in great pain, which appeared from her moaning and efforts to shriek, and all the afternoon she vomited up a porraceous and slimy fluid. She took no food; whenever any was offered it excited a vomiting of this slimy fluid; in this way she continued till about a quarter before ten last night, when being quite exhausted, death released her.

April 6, 1785. At three o'clock in the afternoon I examined the body. Upon opening the cavity of the abdomen about half a pint of a purulent brownish coloured and very foetid fluid issued; the small intestines and colon were healthy, but much distended with wind. The stomach was much diseased, that portion of it from the *cardia* almost to the *pylorus*, was very much discoloured, and put on a gangrenous appearance; its coats separated by the slightest touch, so that the contents passed into the cavity of the abdomen; it was very much distended with the food taken for the last two or three days, which consisted of savory biscuits moistened in tea; this was changed to a greenish colour similar to that fluid she vomited up before death. The liver was larger than
than

than usual for a child of her age, its colour on the superior surface was different in different parts of it, the part near the suspensory ligament had a dusky or blackish complexion, whilst the inferior part of it near its edge was of a purplish hue; on cutting into its surface it was perfectly healthy, as were also the gall-bladder, and the viscera of the abdomen and pelvis. The contents of the thorax were perfectly healthy. The skin of the back, nape of the neck, and left scapula, (the parts first attacked with inflammation and abscess) which were now well, adhered to the muscles adjoining, which occasioned the teguments to fall into the wrinkles or folds above mentioned; there was also a quantity of brownish coloured serum in the cellular membrane of this part. The muscles situated immediately under the inflamed parts appeared in a healthy state. In the *nates*, the posterior parts of the thighs and legs which had been attacked by inflammation, the *adeps* was very much thickened, and between it and the muscles, was also a quantity of discoloured serum; the muscles here too appeared perfectly healthy.

CASE

CASE II.

Having in the former case enumerated every little particular circumstance which daily occurred, in order to give as ample a description as possible, in this I shall only mention such symptoms as are most important, and such as essentially differed from the former; and these two cases will, I am of opinion, include all the varieties necessary for the investigation of this disease.

September 10, 1785. Mark Simmons, aged four months, a fine healthy boy at the breast, inclining to be fat, was, about six weeks ago, afflicted with an inflammation of the erysipelatous kind round the verge of the *anus*, which extended upon the *nates*, at first very similar to the aphthous inflammation after it has passed through the intestinal canal, but here no thrush appeared; it then spread over the back part of the thighs, accompanied with small pustules similar to those described in the first case, which suppurated, but never seemed perfectly distended with pus; in a fortnight's time his face, extremities, and scrotum, began to swell, as if inflated;

inflated; this continued about a week, and then subsided; he was also afflicted with a cough, accompanied with a secretion of a vast quantity of viscid phlegm, which sometimes threatened suffocation. This disease was at times attended with hot skin, quick pulse, furred tongue of a brownish colour; his nights were, for the most part, restless. His bowels throughout the whole disease were not particularly affected.

September 9. About four o'clock in the morning, he was seized with a convulsive fit, which continued five minutes; during it his hands and arms were rigid and cold; he revived, and remained composed till seven o'clock in the morning, when another similar fit seized him, which continued half an hour; after this all voluntary and involuntary action appeared to be totally suspended, so that it was difficult to ascertain life, and when visible life returned, his countenance was pallid and deathly, the eyelids were nearly shut, and the mouth open, pulse very weak and intermitting, and the extremities cold; at times he struggled hard, his respiration was quick, and sometimes interrupted with a short cough, and, whilst I was writing this, he died without either

either sigh or groan. At first I was doubtful whether he was dead, imagining him to be in that state of collapse which succeeded the second fit, and therefore, after waiting a little while, I made use of every means to rouse him, but in vain.

In this case I pursued the plan of cure similar to the former, only varying it according to the diversity of symptoms. I employed the lotio saturnin. with spir. camphor, and administered the cortex cum cardiac. and tinct. opii camph. as plentifully as the stomach could bear. During the febrile symptoms, I occasionally administered small doses of the pulv. antimon.; when the convulsions came on, I had recourse to the foetid antispasmodics, and a blister on the back; however death so soon followed, that the effects of medicines could not here be ascertained. This child died about twelve at noon, on Sept. 10, 1785, and I opened him Sept. 12, at eight in the morning. I found here also that portion of the stomach near the *cardia* of a reddish complexion, and its structure similar to the former so changed, that, like white brown paper, it gave way to the slightest force. The matter contained, which was like panado, escaped into the abdomen; the whole of its
inside

inside was lined with a gelatinous fluid; the intestinal canal was otherwise healthy, there was rather more *liquor peritonei* than natural, and with it was mixed a small quantity of curdled matter. The liver was much larger than usual in children of his age, the lower edge of it extended nearly to the superior and posterior spine of the ilium, and its left lobe passed over the stomach as far as the spleen; the gall bladder was of its natural size, and rather distended with bile; the rest of the abdominal contents were healthy. In the thorax I found the heart perfectly healthy; the lungs were covered with a distinct pustular appearance, similar to that in the *nates*, only not so large, and on cutting into their substance I found this pustular appearance every where. There were some few pustules distributed upon the *pleura*; this pustular affection, however, did not appear to intercept the passage of air into the lungs, or obstruct any of the *bronchiæ*, as I could easily inflate them; the inflammation which surrounded these pustules was erysipelatous, similar to that surrounding the *nates* and thighs. I examined the anterior part of the left thigh, on which a number

of

of the pustules remained, as well as those on the right, and found the *adepts* situated under them more firm, as was mentioned in the other case, only with this difference, that in this case it was collected in a cluster-like form, resembling so many small glands. The muscles under the diseased parts were not affected.

OBSERVATIONS ON THE PRECEDING CASES.

Having now recited two cases which I thought would afford as much variety as any in my possession, I shall conclude with a few observations. Cases, like the foundation of a building, if faithfully related, will stand the test of enduring time. The vicissitudes occasioned to matter by the powers of life, afford an immense variety; a volume to be read only in the records of symptoms, in the perusal of which the attentive observer traces the connexions which point to practice and prognostic. But this, as it has been, must perhaps be the work of ages; if every one did but contribute his assistance to the improvement of this the fundamental stock, the practice of physic would

be no longer a conjectural branch of science, but would be found to have as immutable principles as geometry itself. In the history of the foregoing disease I have said nothing of its cause, that I could not trace; it began suddenly, and at a time when the children were apparently in good health.—The inflammation induced was of the erysipelatous kind, which at once shewed the irritability of the parts and nature of the constitution, so as to determine me to proceed in the method of cure which I instituted. In the first case the inflammation, whilst it occupied only the nonvital parts, did not produce any danger; and although it continued to spread, yet the healing disposition was present, as was evident from those parts which healed. But as soon as the stomach was seized with the inflammation, which the symptoms clearly shewed, namely, pallid countenance, great anxiety and moaning, nausea and sickness, even to vomiting, loss of appetite, with porraceous liquid stools, &c. then commenced the great danger. All these symptoms manifestly proved a morbid secretion in the stomach, which nothing but a diseased organ could produce, the state of which may generally

rally be known by the secreted contents. From this period we see how all the actions of the animal ceased, and which will always be the case when an organ of such importance is so affected.

In the second case a similar inflammation came on as suddenly, though not so violently; in it also no danger appeared till the stomach was seized, which was accompanied with a convulsive fit, followed by a temporary suspension of all sensible action, and soon after by death.—I need not advert to the necessity of opening dead bodies; no one would here have declared the true and immediate cause of death, or have known that either the stomach or lungs were affected in the way that I found them; and, probably, without such an investigation, I should have said, in the usual, and often just language, that nature was exhausted by the pain and discharge, while the true cause was the destruction of an organ, the immediate support of life. In children that have died of this disease, upon dissection, I have constantly found the stomach affected as I have described. That state of the lungs and *pleura* described in the se-

cond case, I had never seen before; that, most probably, would have proved mortal had not the stomach been so altered; the preternatural size of the liver, its colour, &c. I believe, had not any share in the destruction of life, as that viscus did not appear to be in a morbid state. Notwithstanding these cases generally prove fatal, yet I have seen several recover who have been treated in the manner related, and, from what I have seen of them, I think I may infer, that as long as the disease remains upon the *cutis* and *adepts*, it is not dangerous; but if the stomach or any other vital part should be attacked, it proves mortal.—These appearances, upon dissection, lead me to inquire into the opinions of the *Abbé Spalanzani*, and Mr. *Hunter*, respecting the effects of the *gastric juice*. When I first heard of Mr. Hunter's opinions on the functions of the stomach, so far as relates to the action of the *gastric juice* upon it, I own I was not a little surpris'd I had not then met with any stomach in the bodies I had opened so affected; however, such was my faith in his opinions, as founded upon experiments which carried along with them so much conviction, made by an accurate observer,

server,

server, that I admitted them to be just. But every subject I opened for the investigation of the disease, I made a point of examining the state of the stomach with a view to this, and was surprised not to find any such effect upon it; some of these subjects had died of acute diseases, others of chronic; some I opened a few hours after death, others at a more distant period; at last the children's cases already mentioned, and others of this kind, fell in my way. Here I had not a doubt but that the appearance of disorganization of the stomach, was a morbid one, and as it corresponded so much with that described by Mr. Hunter, I began to suspect the truth of his opinion: however accurate he had been in his experiments on brute animals, and however just his conclusions were, any person unacquainted with the several circumstances, prior to the death, would naturally conclude with Mr. Hunter. Supposing such an infant conveyed to the anatomist, and that the arteries were injected, as soon as the injection had entered the stomach thus altered, it escaped into the cavity of the abdomen; the anatomist, on viewing it, also concluded the *gastric juice* had operated as a
O 3 menstruum

menstruum upon the coats of the stomach, which being destroyed, suffered it thus to escape into the cavity; and in this way would he solve the *phænomenon*. Such cases I have seen whilst a student of anatomy, and that was the explanation given of them. I am told that this appearance of the stomach may always be seen after a plentiful secretion of the *gastric juice*, by killing any animal, a rabbit, for instance, soon after he had been plentifully fed. Not having made any experiments of this kind myself, I suppose this must be allowed; although I still think it very extraordinary, that after opening apoplectic subjects, and persons who had died soon after accidents, I had never been so fortunate as to see it; I have indeed observed it in a man who died with symptoms of the *angina pectoris*, but this I could, if my paper admitted, explain to be a morbid appearance. From these observations it would appear that a solvent power is ascribed to the *gastric juice* which it does not possess in any greater degree than fluids secreted on the internal surface of the intestines, or, perhaps, on any other mucous membrane. I have a very great objection to experiments
made

made on living animals, no less from the little information they afford, than from the cruelty attending them: Who can read those of the *Abbé Spalanzani* without horror? and what do they prove? that some of the substances were indissoluble, and some tortured the animal very much; that others were broken down with much difficulty, and others very readily. But why torture animals for this knowledge? Does not the human subject, as governed by a rational power, sufficiently inform us of this? and is any one ignorant of the natural or constituent parts of organized matter, the common articles of our aliment? Do not we find that some of these taken in one form are more soluble than in another? and that the recipient, or organ itself, is at one time more adapted to perform its office than at another? All this the rational animal can much better inform us, than any rules deduced from these experiments. Again, animals which still retain the principle of life have been committed to this almost universal menstruum, as it is called, in order to prove its effects upon them; and then we are told with great sagacity, that as

O 4

long

long as the principle of life remained, (that great preserver) it had no effect upon them; but this principle was no sooner removed, than the several parts would again of necessity resolve into their first principles, the natural changes of all mutable composites, and from this they have inferred, that dead animal matter is more easily dissolved than living. But, instead of torturing living animals to obtain such wisdom, let us attend to the operation and action of disease, the sufficient tormentor of animal life, and it will teach us when and how the parts deviate from their natural functions; and after death, dissection will shew us what alteration the parts have undergone, and their different stages. For, as the structure of every part in the body is composed of arteries, veins, &c. of course no change can take place without an evident alteration in them; and, as every day's experience shews us the alteration on the external parts, why should we be at a loss to explain that which is internally produced, and which I shall at some future time prove, to a demonstration, since they are similar in all their processes? I must defer to some future opportunity

tunity the consideration of some other morbid affections of the stomach which I have met with, for want of time to arrange the materials,

ARTICLE

ARTICLE XXII.

Case of inverted Uterus, with Retention of the Placenta after Parturition.

BY TOBIAS BROWNE, SURGEON-ACCOUCHEUR.

Read NOVEMBER 21, 1796.

Camberwell, Surry, Oct. 18, 1796.

ELIZ. EMMETT, the subject of the following history, is a woman of a good habit of body, and tolerably well proportioned. She sent for me to attend her in labour, between two and three o'clock in the morning of Monday, Sept. 19, 1796. Upon examination, I found the os uteri gradually dilating, to the extent of an half-crown; but, as I could not then ascertain the presentation, and, as her pains had nearly subsided, I requested her to rise, and walk about; which soon obliged her to resume her former situation on her bed, and about nine o'clock,
A. M.

A. M. a rupture of the membranes took place, and it appeared clearly to be a footling case, which I delivered in the usual way. The child was dead, and in a very sphacelated state: after the foetal delivery some pain ensued, and, by a very slight effort to extract the secundines, the *funis* broke (it being also very putrid). The pains, however, not only continued, but became more excessive, with a degree of bearing down hardly to be conceived, and an actual inversion of the uterus, with the placenta completely adhering, took place. The dangerous state of the patient admitted of no delay; and having considered whether I should separate the placenta, and return the uterus, or reduce both together, on passing my finger round the placenta, finding it in no part detached from the uterus, I determined on returning them together, and happily succeeded.

During this time no hæmorrhage ensued, and I was therefore very averse to excite one, which a hasty separation of the secundines, in that relaxed state of the uterus, must have occasioned; having therefore waited a considerable time, (the patient being
as

as little disturbed as might be expected, considering what had occurred) I endeavoured to impress on the minds of the friends present, that no inconvenience would result: I gave her an anodyne, and directed proper nourishment, and such febrifuge aperient medicines as were requisite to prevent inflammatory symptoms; which, indeed, did not intervene; and on Thursday, September 22 (in the evening), four days from the time of her delivery, a sanguineous discharge, to no great degree, took place, which gave me hopes that the contraction of the uterus was spontaneously occurring: the expulsion of the burden (which I anxiously waited for) happened on Friday the 23d, after a retention of five days, and at this time (now more than a month from her being put to bed) she has every appearance of recovering as favourably as in any of her former labours, she having had thirteen children.

The death of the foetus (by the mother's account) appears to have taken place about the 20th of August, she having on that day accidentally received a severe blow on the abdomen, and never felt it from that period; she

she experienced, however, no material inconvenience from it, nor did I hear any thing of this circumstance till the time of her labour. The *fœtus* and *funis*, as before observed, were highly putrid and offensive; the *placenta*, on the contrary, was perfectly sound, and had acquired its original size, no doubt, from the maternal circulation being continued till its expulsion.

ARTICLE XXIII.

*Case of Imperforate Rectum and Obstruction in
the Neck of the Bladder.*

By WILLIAM CHAMBERLAINE,
MEMB. CORP. SURG. and F. M. S.

Read MARCH 13, 1797.

MARCH 8, 1797, I was called to attend the labour of Mrs. Ashmore, No. 15, King-Street, Compton-Street. She had a good natural labour, and was safely delivered of a male child. On my visiting the next day, the nurse informed me the child had had no evacuation either by stool or urine, and that it appeared very uneasy. I found the pulse feverish, and a great degree of tension and hardness of the abdomen.

On examining the anus, I found it in a natural state; however, supposing it possible there might be an obstruction higher up, I introduced a probe into the rectum, and found
a firm

a firm resistance at the distance of somewhat less than an inch and a half.

Withdrawing the probe, I then introduced a very small glyster-pipe well oiled, which stopped at the very same place; then, examining the obstruction, by means of the probe, (the glyster-pipe serving as a canula or director) I had not the satisfaction to find any thing like re-action, or any sensation as if the *faeces* were forcing down some thin obstructing membrane. However, as the case was desperate, and a most miserable, and perhaps lingering, death was inevitable, unless something should be done, I determined, at all hazards, to attempt a perforation. Having represented the case and its consequences to the parents, and obtained their permission, I determined to perform the operation with a small trocar; and introducing the canula first, well oiled, as high as the obstruction, I pushed the perforator through the obstructing substance until I found no farther resistance; then withdrawing it and the canula together, I had the pleasure to see the instrument followed by a very copious discharge of the *meconium*, slightly tinged with blood. I then thought it advisable to inject a common glyster;

glyster; the pipe, in passing, stopped at the place where the obstruction had been, but the resistance was soon overcome, and a very moderate degree of force enabled me to get it all the way up. None of the glyster was returned, and the child seemed perfectly easy. On my return however, in about two hours, I found we had still another difficulty to combat with. He had not made urine, and, in consequence of this, convulsions, shrieking, fever, tension of the abdomen, and other alarming occurrences, had come on. I took a coach and went to Evans's, but could not get a catheter of a size small enough for a new born infant. I took with me, however, one of the smallest gum elastic catheters I could find; but even this, on trial, was too large, and would not enter the urethra. No time was to be lost; but having no proper instrument, I bent my probe into the form of a catheter, and having, previously to my attempt to introduce the hollow bougie, divided with a lancet the small membrane that closed up the external orifice of the urethra, I passed the probe, without difficulty, as far as the neck of the bladder; having got thus far, its passage seemed opposed

I

posed by some obstructing substance, nevertheless, by a little perseverance, and gentle management of the probe, I was fortunate enough to find the probe at last move forwards, until I could perceive it to be fairly in the bladder, and the urine making its appearance at the external orifice of the urethra. I then withdrew the probe, which was followed by a plentiful discharge of urine, and the child became for a time easier.

Next day, however, a message was sent to me early, that the child was worse; I found all the symptoms of the preceding day much aggravated, with inflammation (which the nurse mistook for mortification) of the abdomen; I ordered the warm bath, fomentations, and emollient glysters, to be prepared, and passed the probe as the day before, with the same success. By the help of these applications, and a few aperient and carminative medicines, the child recovered, and is now perfectly well.

March 13, 1797.

W. C.

ARTICLE XXIV.

*An Account of the Effects of Ipecacoanha in
the Cure of Dysentery, at Norfolk Island.*

By W. BALMAIN,

ACTING AS CHIEF SURGEON TO THE TERRITORY OF
NEW SOUTH WALES.

Read JANUARY 16, 1797.

ABOUT the latter end of February 1795, a number of the inhabitants on Norfolk Island complained of violent pains and gripings in their bowels, which were attended with frequent discharges of blood and mucus.

I saw, with much concern, the number of sick daily increasing, and their complaints, in general, accompanied by a train of very dangerous symptoms.

It may be proper to observe here, that in our autumn in this part of the world, (which is the spring of the year in England) the dysentery, (during three years and upwards of

my

my residence at Norfolk Island) has never failed to visit the colonists in a greater or less degree, most probably, from the town's being placed contiguous to a swamp of considerable size.

But this year the disease appeared to be highly aggravated in all its circumstances, and death was the speedy consequence in several cases.

To check the progress of so loathsome a distemper, I employed all the means in my power, and followed the directions of the most able practitioners.

I found the ipecacoanha, given in small doses, always useful, and in an accidental conversation with a Mr. Wentworth, who assisted me at one of the out-posts, I formed the design (from what he then said) of giving that medicine in larger quantities.

He informed me that while he was serving his apprenticeship, a man who lived in the same town where he did, was frequently called upon to administer relief in cases of the flux; and, from being uncommonly successful in the cure of it, his nostrum was eagerly sought after, by all persons in the neighbourhood.

At last it was discovered that this man's father (who had been a soldier in the wars in Germany, and often dangerously afflicted with the dysentery) used the powder of ipecacoanha, with the addition of some drops of the tinct. opii, and never found it fail in curing him.

His dose was from a drachm and a half to two drachms and upwards.

Mr. Wentworth, previously to our conversation on this subject, had given ninety grains of the powder, with forty drops of tinct. opii, to a man whose life was apparently near a close, from an attack of the disease in question, and with whom evacuants had been previously used: the consequence was, a wonderful abatement of every symptom in the space of one night, and a repetition of the medicine, in smaller quantities, completed the cure in a few days.

I did not now hesitate to follow this mode of practice, and gave the ipecacoanha frequently to the quantity of two drachms, with the addition of sixty drops of tinct. opii, and, in many cases, found that a dose or two was sufficient to remove every dangerous appearance, and that afterwards, by a due attention

to the proper use of restoratives, the cure, in a number of instances, was completed.

I administered the medicine in various forms, and always observed it to answer the purpose best, when given in the form of pills, which were made as large as possible to admit of their being swallowed; and if the patient kept still, and lay on his back, with the head and chest tolerably elevated, nausea seldom or ever followed the taking of the medicine, and oftentimes it happened that he had not a stool the succeeding day, although, previously to taking the ipecacoanha, the gripings were violent, and the discharge of blood frequent, and in large quantities.

I have only to add, that before I used the ipecacoanha, I generally administered the sal. cath. Glaub. and always thought myself more successful in consequence of its use.

If what I have related is no new thing to medical men in general, its being so to me has induced me to trouble you with it.

W. BALMAIN.

To Mr. HENRY FIELD, Secretary
to the Medical Society of
London.

SYDNEY, NEW SOUTH WALES, DEC. 21, 1795.

P 3

SIR,

SIR,

SINCE my first Letter to you respecting the effects of ipecacoanha in the cure of dysentery, I have had occasion to remark its operation in similar cases, and have found it, in almost every instance, attended with happy consequences, when administered in the same kind of way.

I am happy to inform you that the inhabitants of this settlement enjoy, in general, an excellent share of health; and that diseases, either peculiar to the people or country, are seldom discovered. The fruits of intemperance, and other irregularities, are chiefly what we have to contend with, and at times, afford the medical gentlemen considerable employment. I shall study to deserve the good-will of the Medical Society, and am, with very great respect,

SIR,

Your most obedient,

very humble servant,

W. BALMAIN.

SYDNEY, NEW SOUTH WALES,
SEPTEMBER 18, 1796.

ARTICLE

ARTICLE XXV.

A Case of Empyema.

[Communicated by Mr. WASTELL, of BROAD-STREET, ST. GEORGE'S in the EAST.]

Read AUGUST 7, 1797.

MAY 16, 1793, Mr. John Metcalfe, aged 16, of an athletic make, and sanguine habit, was exposed to violent cold, when overheated by exercise. In the evening he complained of a sharp pain in his left breast, and across his loins; and feeling chilly, he drank some warm brandy and water, and went to bed. He was restless and feverish in the night; and the next morning, the pain being more severe, Mr. Wastell was sent for.

He then complained of a pain across his chest, and particularly in the region of his left kidney. His skin was very hot, his face like scarlet; his breathing difficult and painful; his pulse 100, hard and full. Eighteen

P 4

ounces

ounces of blood were taken away; a large blister was applied to his side; and various medicines were given. The next morning the symptoms were rather more favourable; but in the evening they were much aggravated; his skin was dry, his cough hard, &c. Twelve ounces of blood were taken away. May 19th, he was better; but on the 20th his breathing became very difficult, and the pain in his chest more severe: his pulse was 110 and tense. He lost five ounces of blood, and Dr. Saunders was called in; who ordered eight ounces more of blood to be taken away, and four grains of James's powder to be taken every four hours, with a saline draught.

On the 25th the pain was nearer to the *vertebræ*, and on the 2d of June it abated, and symptoms of a crisis appeared. The left carotid artery beat 110 times in a minute; the pulse at the wrist was 88.—June 4th, the pain was near the left nipple; and the next day it was in the left shoulder.—June 12th, he continued much in the same way; the pain shifting from his shoulders to the right side, which was very acute when he coughed. Three ounces of blood were taken from the back

back by cupping; and his side was dry-cupped, which gave great relief.

July 3d, a tumour appeared under his left nipple, attended with pain, and projection of the ribs. A plaister of empl. litharg. comp. was applied. July 14th, his cough continued to be troublesome, with acute pains. July 20th, the tumour was larger: a fresh plaister was applied. The pulsation of the carotid artery was 140 times in a minute; that at the wrist 110. This day he said, he perceived something give way in his chest: his pain then ceased. July 23d, he had a good night, coughed seldom, and had very little pain. This day Mr. Wastell observed his heart beat on the right side. July 25th, the tumour was less, and the pain scarcely perceptible. From this time his cough troubled him but seldom.

Aug. 6th, a small tumour was perceived between the 7th and 8th ribs, on the right side: the heart was still more on the same side. Aug. 10th, Mr. Turnbull, surgeon to the Eastern Dispensary, examined him with Mr. W. When placed in a recumbent posture, the small tumour on the right side emptied itself; when pressed upwards it gave great

great pain. The pulsations at the wrist were 110; those at the heart more frequent. The rising of the ribs on the left side continued nearly the same: the tumour on the right side became painful. Aug. 14th, on applying his hand to the tumour on the right side, Mr. Wastell could perceive it fill and empty itself, every time the patient coughed. Aug. 16th, the tumour was larger; and filled at every expiration. Mr. W. proposed opening it, but was not permitted. Aug. 19th, the tumour was very painful, and discoloured.

Aug. 20th, this day, at noon, he had an incessant cough, and began to spit thick matter, of a greenish colour: when Mr. W. came to him at five o'clock, he had spit three half pint basonsfuls, and was like to be suffocated. Dr. Turnbull, physician to the Eastern Dispensary, accompanied Mr. W. and agreed with him in the necessity of an immediate operation; which Mr. W. performed, by making an incision between the 7th and 8th ribs, on the right side, and let out 52 ounces of thick matter, similar to what had been spit up. The part was dressed with a poultice; and the patient was put to bed. The pulsation of the heart was then

near to the right axilla ; and too quick to be counted : the pulse at the wrist 136 ; his breathing 48 times in a minute. He was placed on his right side, and an anodyne was given. His appetite did not fail during his whole illness ; but his strength was much reduced.

About five days after the opening was made, the heart began to approach towards the sternum, and the tumour on the left breast gradually disappeared. The discharge, both by the wound, and by the mouth, continued copious for some days ; then it diminished. Nine days after the operation, the heart was under the sternum.

Sept. 1st, he spit freely by night, but not in the day ; and as the discharge from the wound was lessened, and a fulness appeared below the orifice, Mr. W. enlarged the aperture, and applied a poultice. Three days after, the heart was perceived on the left side of the sternum ; and the patient was better in all respects. Sept. 6th, as the expectoration of matter, by night, continued, Mr. W. made two issues between his shoulders, to hold three peas each, and gave him tonics, and an opiate at bed-time. From this time

time his recovery was rapid, and he gained strength daily.

On the 26th of September he walked from Burr-Street to Broad-Street, distant a mile and a half, to see his physician, Dr. Saunders, and to let him know that his heart was again in its proper place; and walked back without the least inconvenience. He now gained flesh, and began to recover his florid complexion.

Sept. 30th, he went to Stockton, his native place, by sea; and about a fortnight after, informed Mr. W. by letter, that he was able to ride out every morning without fatigue; that the wound in his side was healed, but the issues still continued to discharge freely.

ARTICLE

ARTICLE XXVI.

Effects of Arteriotomy in Cases of Epilepsy.

By ANTHONY FOTHERGILL, of BATH, M. D.

Read FEBRUARY 26, 1795.

J. Y—, an industrious shoemaker of this city, aged 35, of short stature and full habit, though not addicted to intemperance, about two years ago, without any visible cause, except the want of due air and exercise, in consequence of his sedentary occupation, was seized on a sudden with a severe fit of epilepsy, which afterwards returned at uncertain intervals with increasing violence. Venesection, and various remedies having been employed without success, and his memory and judgment, by repeated attacks, being greatly impaired, I was at length consulted.

Finding, on inquiry, that an exacerbation
of

of the disease had generally accompanied the great lunar periods—that his appetite of *late* had become inordinate, attended with a costive habit, full pulse, throbbing of the temporal arteries, and flushed countenance, symptoms clearly denoting an increased determination of blood to the *encephalon*, I did not hesitate to order copious bleeding from the **TEMPORAL ARTERY**, till a sense of faintness should ensue; which, after 12 or 14 ounces had been extracted, accordingly happened. While the blood was flowing he found his head evidently relieved.

Having directed some purgative pills, composed of jalap, with a few grains of calomel, to obviate costiveness, with necessary restrictions respecting his diet and regimen, I forbore to prescribe any other remedy. From that time the fits ceased, and with returning health his faculties were restored.

About a twelvemonth ago another case of epilepsy occurred in W. M——, a young man of similar habit and sedentary employment, wherein arteriotomy was had recourse to, and with similar effects. But unfortunately, the youth being devoted to appetite, and impatient of restriction in diet and regimen,

men, after a lucid interval of six months, brought on a relapse through his own folly. Notwithstanding this apparent success of arteriotomy in recent cases of epilepsy, let it not be imagined (especially where there is a preternatural determination to the brain) that a radical cure can be generally effected by this, or any other remedy, without constant attention to an abstemious diet and strict regimen.

ARTICLE XXVII.

Observations on human intestinal Worms, being an Attempt at their Arrangement into Classes, Genera, and Species.

By ROBERT HOOPER, M. D.

Read OCTOBER 2, 1797.

IT is a fact equally well known to physicians and philosophers, that the human body contains in its interior, different species of worms. These worms are also known to produce diseased states of the bodies in which they inhabit, and to become the source of innumerable evils. To inquire therefore into their anatomy and economy, and to point out their peculiarities, is a matter of no small importance, but, on the contrary, may contribute to establish a more rational method of cure in diseases produced by these worms. The descriptions of writers on this subject are frequently discordant, and we have yet
to

to lament the want of an arrangement, which shall distinctly point out the specific characters by which each worm may be distinguished. To obviate these inconveniences, and to reduce to order what has hitherto been much confused, I have, in the following sheets, endeavoured to lay down some observations towards establishing an arrangement of human intestinal worms. It is my intention also, at some future period, to prove, that the human intestinal worms are of themselves distinct from all other worms, and only inhabit and propagate in the human *primæ viæ*.

The motives, which induced me particularly to consider this subject were, the very frequent applications made to me by the numerous and indigent poor who applied to the institution to which I have the honour to belong, for relief in diseases produced by these animals. At this place, sacred to the feelings of humanity, I have enjoyed every advantage that the extensive nature of my situation would permit. To this object my views have been directed for these eight years. In all the cases which have come under my care, and in all the dissections at which I have been present, whether of the human species, or of

other animals, I have been uniformly desirous of investigating the nature of worms.

At some future period, should time and opportunity permit, I purpose laying before the public some observations on the different methods of cure in worm diseases, to which the present paper is preparatory; but, in consequence of being at present engaged in several literary undertakings, I am apprehensive it may be some time before I can arrange my papers and notes on this important branch of pathology.

It is now five years since I first discovered a new species of worm, the drawing of which, as well as of the other worms, was made by that ingenious artist Mr. Henry de Bruyn, by whose unremitting attention I am enabled to lay before the society the several drawings, the greatest part of which were taken from the microscope; but it was not till lately that I found that the same worm was first mentioned by Roederer, in the year 1760. To him the honour of the discovery is therefore due, "*longe mihi potior cura est veritatis quam novitatis*," (Morgagni). By him it was first called Trichuris, and under that name I have described it.

It

It is somewhat singular, that this worm should have escaped the notice of anatomists and physicians so long; and, although it is mentioned of late years by Wrisberg, Blumenbach, Goeze, and others, their descriptions will be found to vary considerably from that which I have given. I believe it to be entirely new in this country. It is nowhere mentioned in the works of any of our most celebrated anatomists and physicians, nor do the most eminent characters, with whom I have had frequent opportunities of mentioning this subject, ever recollect to have met with it in their practice; on which account it may, with propriety, be numbered among the discoveries of modern times. There are several specimens of this worm in the late Dr. Hunter's museum, but this great anatomist, engaged in pursuits which have immortalized his name, was ignorant of their being Trichurides, and believed them to be adventitious. By Dr. Baillie's kindness I have examined them, and find them, in every respect, similar to that which I have described.

The following observations are intended to point out the principal *phenomena* observable in these parasitical animals, as far as they are

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with certainty known. A great field remains yet to be explored, and, perhaps, at some future period, their nature and offices may be more generally and better known: “*nam multum egerunt qui ante nos fuerunt, sed non peregerunt; multum adhuc restat operæ, multumque restabit: neque ulli nato post mille secula præcidetur occasio aliquid adhuc adji- ciendi.*”—Seneca;

Such is the nature and office of the human stomach and intestines, that insects and worms, or their ovula, may not unfrequently be conveyed into that canal with those things, that are continually taken as food; but such insects or worms do not live long, and seldom, if ever, generate in a situation so widely different from their natural one.

Besides these, there are worms, that are never found in any other situation than the human stomach or intestines, and which there generate and produce their species,

Thus it appears that the human stomach and intestines are the seat for animalculæ, which are translated from their natural situa-
tion,

tion, and also for worms proper to them, which live in no other situation, as I shall prove in the description of each species.

THE FIRST CLASS

Contains those worms, which are generated and nourished in the human intestinal canal, and which there propagate their species.

THE SECOND CLASS

Comprehends those insects or worms, that accidentally enter the human primæ viæ *ab extra*, and which never propagate their species in that canal, but are soon eliminated from the body; such are, several species of Scarabœi, the Lumbricus terrestris, the Fasciola, the Gordius intestinalis, and others.

The second class belongs to the province of natural history. The consideration of the first class is the subject of the present paper, which, from the variety it affords, I have thought proper to divide into different orders, genera, and species, and have attached such peculiarities as, eventually, will distinguish them from all others.

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ORDER

ORDER I.
THE ROUND WORMS.

GENUS I.
INTESTINAL ASCARIDES.

Character.

Body round. Head obtuse and furnished with three vesicles.

Species.

ASCARIS LUMBRICOIDES. THE LONG ROUND
WORM, OR LUMBRICOID ASCARIS.

Character.

When full grown, a foot in length. Mouth triangular.

ASCARIS VERMICULARIS. THE THREAD OR
MAW WORM.

Character.

When full grown, half an inch in length. Tail terminates in a fine point.

GENUS

GENUS II.

INTESTINAL TRICHURIDES.

Character.

Body round. Tail three times the length of the body. Head without vesicles.

Species.

TRICHURIS VULGARIS. THE TRICHURIS, OR
LONG THREAD WORM.

Character.

The head furnished with a proboscis.

ORDER II.

THE FLAT WORMS.

GENUS I.

INTESTINAL TAPE WORMS.

Character.

Body flat and jointed.

Q 4

Species

Species.

TÆNIA OSCULIS MARGINALIBUS. THE LONG
TAPE WORM.

Character.

The oscula are situated upon the margin of the joints.

TÆNIA OSCULIS SUPERFICIALIBUS. THE
BROAD TAPE WORM.

Character.

The oscula are placed upon the flattened surface.

These worms were all known to the ancients, the Trichuris only excepted, and are mentioned in the works of Hippocrates, Galen, Celsus, Paulus Ægineta, and Pliny.

ORDER

ORDER I.

GENUS I.

Species 1.

ASCARIS LUMBRICOIDES.

Latin. Lumbricus teres.

English. The long round worm.

French. Le ver. strongle, le ver long et rond.

Ελμινς στρογγυλὰ of the Greeks.

SYNONYMS.

Lumbricus teres. *Clerk histor. lumb. lator. p. 229.*

———— intestinalis humanus teres. *Klein. herpet.*
p. 62.

———— intestinalis. *Pallas dissert. de infr. vivent.*
p. 13. n. 4.

Ascaris lumbricoides. *Linnei system. natur. p. 1076.*

———— Mulleri *histor. vermium. p. 35.*
n. 166.

Der Darmwurm. *Mulleri transl. Linnei syst. nat.*
vol. vi. p. 36.

Der Hurzwurm. *Zwingeri observat. p. 437.*

Der Rundwurm. *Goeze. Naturgesch. p. 78.*

Der Spulwurm. *Bloch. Abhandlung von der*
Erzeugung, &c. &c.

Essential Character.

The body round. Length from twelve to fifteen inches. Head furnished with three vesicles, forming in their middle a triangular space.

Description.

SIZE. When full grown, from twelve to fifteen inches in length; and in circumference equal to that of a goose quill.

THE HEAD is to be distinguished from the tail by a small contraction, very obvious when the worm is lying down; it is trilobated, having three vesicles, and a triangular aperture, between which is the mouth. These three globose papillæ are joined together at their basis, and are of the same colour as the rest of the worm.

THE TAIL may be known from the head by its very acute termination, close to which is a large orifice, the extremity of the intestinal canal, which I have therefore termed the anus.

THE BODY is that part between the two extremities, forming nearly the whole of the worm; it puts on a rugose appearance, and has

has a line very apparent running on each side, and extending from one end to the other. Between these two lines are two other lines running parallel with the former, scarcely visible. Near the middle of the body (rather towards the head) is a circular depression of about the one-fourth of an inch in extent, in which is a very small punctiform aperture. This depressed band is regular in its appearance, when the body of the worm is distended, although it would appear to be wanting when collapsed, in which state it mostly escapes from the intestines.

Situation.

They generally infest the small intestines, and of these more frequently the course of the jejunum and ileum. Sometimes they are known to ascend through the duodenum into the stomach, and I have frequently seen them creep out at the mouth and nostrils. It happens but rarely, that they descend into the tract of the large intestines, and then only after the exhibition of vermifuges, or from other causes, which increase the peristaltic motion. They have also been detected *post mortem* in the ductus communis cholidochus; and

and instances are related where they have remained a considerable time in the vesica fellis*.

Number.

In general they are very numerous; I knew a girl eight years old who voided *per anum* upwards of two hundred in the course of a week; between thirty and fifty is a very common number. Nevertheless instances frequently occur of their being solitary.

Colour.

When recently excluded they are transparent, and appear as if they had been sucking water tinged with blood; this colour, however, soon disappears, and they become at length of a light and opaque yellow.

Motion.

When voided by patients they are, in general, very feeble, and soon die in spite of all attempts to keep them alive. I have, however, occasionally succeeded by suddenly evacuating them by a very drastic purge, and

* There is a preparation illustrative of this fact in the Museum of Mr. Heaviside. The greatest part of the worm is convoluted within the gall-bladder, and a portion of the tail fills the ductus cysticus.

imme-

immediately putting them into warm milk and water, when they appear extremely vivacious. Their motion is serpentine, and in no respect resembles that of the lumbricus terrestris, or earth worm, which has the power of considerably diminishing its length and again extending itself. Whereas that of the lumbricoid ascaris is never diminished, the head is always sent forward by the worm curling itself into circles, and suddenly extending it with considerable force to some distance.

Sex.

It is said that the ascaris lumbricoides is not hermaphrodite, but that the male and female are distinct worms*. The worm which I have described is considered as the female, and all the observations I have given are made from one of that sex. Nevertheless, I must observe, that I have examined a very considerable number of these animals, and have never seen any other appearances than those I have described,

* This is the opinion of many ingenious anatomists, and Dr. Baillie, in his *Morbid Anatomy*, page 122, says, "in the lumbricus teres the parts of generation are different in the male and female."

Anatomical Observations.

CUTICLE. The covering or external membrane of the worm which may be considered as the cuticle, is very strong, elastic, thin, smooth, and transparent; and easily separates from the parts beneath if the worm be macerated a few days after death in water.

CUTIS. Under the cuticle lies the cutis, or true skin, which is considerably thicker than the former, and retains the marks of the muscles which it covers. It is also very strong, elastic, and transparent.

MUSCLES. When the cutis is removed the muscles, observable through the skin of the worm, present themselves. They do not entirely surround the worm, as from their appearance one would be induced to believe; but are, in fact, two distinct orders acting in opposition to each other; for the two longitudinal lines, which extend from one extremity of the worm to the other, are, each of them, composed of two distinct tendons, separable from one another. These tendons serve for the attachment of the semilunar muscles, which cover the worm from the head to the tail.

MUCOUS VESICLES. Upon removing carefully the semilunar muscles from the head to the depressed band, a number of minute vesicles are to be seen (by means of a glass) filled with a submucous fluid, which issues out upon puncturing them. This cellular, or parenchymatous apparatus, closely embraces the intestinal tube, from the head to the depressed band; but from thence to the tail, there is merely a fibrous connecting substance, similar to what is generally called cellular membrane.

PERITONEUM. When the muscles are removed from the depressed band to the tail of the worm, an extremely delicate membrane presents itself, analogous to the peritoneum, for it embraces the abdominal viscera, and lines the cavity of the abdomen.

CAVITY OF THE ABDOMEN. This extends from the depressed band near the middle of the worm to the tail; it is mostly distended with a transparent fluid, and contains the intestinal tube and an apparatus supposed to be subservient to generation, which constitute the abdominal viscera.

INTESTINAL CANAL. This begins at the obtuse extremity or head, from the external triangular

triangular mouth situated between the three globose papillæ, and is continued for a small space downwards (nearly half an inch) in a parallel form. To this part Dr. Baillie, in his Morbid Anatomy, has given the name of œsophagus. It then becomes larger and transparent, continues increasing in size as it advances, until it arrives at the beginning of the abdomen, in which course it is closely embraced by a parenchymatous substance, as I have before noticed. Having now attained the size of a crow quill, it passes in a straight direction (and gradually enlarges as it advances), through the whole length of the worm, to within the eighth part of an inch, where it becomes suddenly narrower, and terminates in the anus.

This canal is generally filled with a greenish coloured fluid of the consistence of mucus, not very unlike to the *meconium* of infants. If a portion of this tube be macerated for a few days in water, it exhibits distinct tunics, the external of which is a production of the peritoneum; it is externally covered with filaments, which connect it to the abdominal parietes. May not these be vessels of nutrition?

THE

THE SECOND VISCUS. This apparatus is considered by some as peculiar only to the female worm *, but all agree, that it is for the purpose of generation. It begins near the middle of the worm, where the cavity of the abdomen commences, by a slender tube, which is continued from the punctiform aperture, situated in the depressed band between the two longitudinal lines. This tube, which is termed the vagina, soon becomes much larger, when it commences uterus, and divaricates into two large crura, which, for the space of four or five inches, are continued of an uniform diameter; they, then, on a sudden, become much diminished in size, and appear like opaque threads, embracing in every direction the intestinal tube. These are by *Werner* considered as the Fallopian tubes.

This convoluted apparatus is composed of very fine transparent membranes. It is never found empty, but is always distended with an

* In sceminis incipit tubo infundibuliformi, qui postice divaricatur in duo ampla crura, &c. &c. In maribus calis generationi inserviens, præeunte *Tyson*, quem *Murray* et *Werner* secuti sunt, hanc servat rationem: a postico extremo lumbrici incipit canalis conicus aliquot lineas longus, quem *Tyson* penem appellavit. Vide *Schroeteri* Diff. Inaug.

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VOL. V.

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opaque

opaque fluid, in which are a number of globular bodies, or ovula, containing young worms.

Refutation of this Worm being viviparous.

In the second volume of the Memoirs of the Society, to which I have the honour to present these observations, there is an account of the lumbricoid ascaris, accompanied with a drawing illustrative of the worm in the act of voiding her young; the author of which endeavours to prove, that they are viviparous*.

The

* "Every one," says Mr. Church, "who has examined
 " this worm attentively, when newly discharged from the
 " body, must have observed an appearance of white threads,
 " folded, as it were together, about the middle of the
 " worm; this substance has been generally supposed to be
 " the intestines of the worm filled with the chyle it had
 " just sucked from the body out of which it proceeded; but
 " the fact I am going to relate seems to prove, beyond a
 " doubt, that this white appearance is, in reality, the
 " young worms nearly fit for exclusion from their parent."
 And in another part he continues, "I put them (the lum-
 " bricoid ascarides) into a phial filled with one-third part of
 " rectified spirit and two-thirds water. This appeared to
 " give them great uneasiness, and whilst I was observing
 " their contorsions, I perceived something like threads
 " proceeding gradually from the middle of the belly of one
 " of them, which advanced very sensibly for about a quar-

ter

The account Mr. Church has given, appears to have arisen, from his not having attended to the internal structure of the animal, for the thread-like appearances, which he has taken to be *in reality the young worms*, are no more than portions of the gyrated apparatus, or Fallopian tubes, I have already described; which always protrude, when the skin of the worm is broken, and this generally happens after any increased peristaltic motion of the intestines. But the most convincing proof of these animals being oviparous is, the detection of ovula in the mucus surrounding them in the intestines, which do not differ, in any respect, from those in the uterus of the worm.

Refutation of this Worm being (as is by many supposed) the Earth or Lob-worm, Lumbricus terrestris Linnæi.

The long round worm of the human intestines has, for many centuries, been considered

“ter of a minute; at which time I could perceive three
“distinct worms, above an inch long, exactly like the parent, all alive and moving briskly in different directions.
“About this time the death of the mother put a stop to the
“perfect exclusion of the offspring, who also died with her,
“and now remain hanging to the body.”

of the same species as the earth or lob-worm; the fallacy of which I have therefore thought proper to demonstrate.

The *lumbricus terrestris* has but *one vesicle* at its head, in the middle of which is its mouth; it is flat towards the tail, and is furnished with sharp bristles on its under surface, that serve it for feet, which the animal can erect or depress at pleasure; its annular muscles are very large and strongly marked, and its colour is of a dusky red. Whereas the *lumbricoid ascaris* has none of these *phenomena*. I have before noticed its colour is a pale yellow, that its muscles are very delicate, and its head furnished with *three vesicles*. Upon the under surface of the earth-worm there is a large semilunar fold in the skin, into which the animal can draw its head, or thrust it out at will; but there is no such form in the *ascaris lumbricoides*: the former also has an elevated belt in its middle, but in the latter there is a depressed band. On each side of the *ascaris lumbricoides* there is a longitudinal line very distinctly marked; on the earth-worm there are three lines upon its upper surface.

Species

Species 2.

ASCARIS VERMICULARIS.

English. The Maw or Thread-worm.

Latin. Ascaris.

French. L'Ascaride.

German. Der Afterwurm.

SYNONYMS.

Ascarides of the Greeks.

Ascaris pollicaris. *Linnaei Faun. Suec. n. 1269.*

—— *vermicularis.* —— *Syst. natur. p. 1076.*

—— *cauda sedacea.* *Mulleri hist. verm. n. 165.*

—— *græcorum.* *Pallas dissert. de infr. vivent.*
p. 12.

Vermis ascaris. *Le Clerc hist. lumb. lat. fig. 3. p. 10.*

Die Aftermade. *Mulleri Syst. de Lin. vol. vi. p. 53.*

Die Afterwurm. *Bloch's Abhandlung von der Cr-*
zeugung der Cingeweidewur-
mer. p. 81.

Die Pfriemanschnanz. *Goeze Naturgeschichte der*
Cingeweidewurmer. p. 97.

Essential Character.

Head obtuse, and furnished with three ve-
sicles. Tail terminates in a sharp point.

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Description.

Description.

SIZE. When full grown about half an inch in length, and in thickness resembling a fine piece of thread.

THE HEAD, or obtuse extremity, is nodose, and divided into three vesicles or papillæ, in whose middle is an aperture, through which the worm takes its nourishment.

THE BODY forms about a third part of the length of the animal, beginning immediately from the head, and terminating in the tail, known by its becoming less. It is of a rugose, pellucid, annular fabric.

THE TAIL commences where the body ends, gradually becoming less, and terminating (like a cobbler's awl *) in a fine point. When viewed with a glass, it appears subulated, and furnished with rugæ or thick firm annuli, and there is a small aperture at its beginning, through which the fæces are excreted.

Situation.

They are most commonly situated in the intestinum rectum of children, and are con-

* Thus it is called by some German writers *Die Schwanzspike*.

tinually

tinually passing *per anum*; hence they are called by the Germans *Afterwurm*. They are frequently met with in the *cæcum* and colon, and have been found in the stomach * and small intestines, lying hid between their tunics.

They not unfrequently creep round from the *anus* to the vulva in women †, and I have known them inhabit the vagina and uterus. Anatomical investigations after death have exposed them in the bladder and urinary passages.

Number.

This species is generally in very considerable numbers, especially in the rectum of children. When they inhabit other parts, their numbers are less considerable, yet I have known upwards of an hundred vomited in the

* Wolf Observat. Chirurg. Medic. l. 2. obs. 4.

† Hippocrates, in his liber de morbis mulierum, affirms, that the ascarides are generated in *sinu pudendi muliebris*, and recommends the semen viticis and ox's gall to destroy them. His words are, Επὴν γυναικος ἐν τῷ αἰδοίῳ ἢ ἐν τῷ ἀρχαῖς ἀσκαρίδες γίνωνται, λύγυς καρπὸς μίσγεται, ἢ φύλλα, καὶ βόας χολὴ παραμίσγεται ὅσον ὀβολός, κεδρινῷ δὲ ἐλαίῳ φυρῆν, καὶ εἰρίῳ πινόμεντι εὐρωτάτῳ ἀναλαβεῖν.

R 4

course

course of a day from the stomach of a young woman.

Colour.

Their natural colour is a pale yellow. They are often observed of a yellowish green, and occasionally brown. This would appear to depend upon a variety of circumstances with which we are unacquainted; for, if suffered to remain a day or two in water, they always (whatever their colour may be) become of an opaque pale yellow.

Motion.

The head is the part first put into motion, which the animal turns in every direction, sometimes forming a circle, at other times the figure eight; but most frequently its tail appears fixed, whilst it turns its body sometimes to one side, and then to the other. They are extremely vivacious, and I have seen them bury themselves in the soft faeces of children almost instantaneously upon exposure to the atmospheric air. By some they are said to jump from one place to another, but I cannot say I have ever seen them *.

* This circumstance appears to have given rise to the name ascarides; for ἀσκαρίζειν signifies the same as σκαπίζειν saltare, inquiete movere, salire.

Sex.

The vermicular ascarides are not, as is the generally received opinion, hermaphrodite. The male and female are distinct worms.

THE MALE, when exposed to the magnifying power, does not exhibit any of the gyrated apparatus, which, in the female, is decidedly for the purpose of bringing the young to perfection. The stomach and intestinal canal have, apparently, a different arrangement from those of the female, and are the only viscera I have been able to detect. I have searched for the male organs of generation, but have never been fortunate enough to find them. Perhaps they are so very minute as to elude our researches.

THE FEMALE has, upon its external surface, about the eighth of an inch from the head, a small punctiform aperture through which the young are protruded. When the worm is very much magnified, its internal cavity appears filled with the convoluted apparatus; and I have seen upwards of an hundred of the young escape through the external aperture, all alive, and very vivacious, several hours after the death of the mother, upon making a slight pressure with the finger.

Anatomical Observations.

The integuments of this species are similar to those of the lumbricoid ascaris, and consist of cuticle, cutis, and, as far as I can discover, only one set of annular muscles.

I have never been able to detect any longitudinal lines upon its external surface.

The cavity in which the viscera are situated, begins at a very small distance from the head, and terminates where the tail commences; at which place there is a small opening, the extremity of the intestinal canal.

The only viscera in the MALE worm are the œsophagus, stomach, and intestine.

The ŒSOPHAGUS begins at the mouth, gradually enlarges for a small space, and terminates in the stomach.

The STOMACH is a somewhat round bag, situated at the extremity of the œsophagus, so that, both together, they are pistilliform, that is, resembling an apothecary's glass pestle, which, according to Goeze, constitutes a distinguishing character of this species *.

The

* "Dies ist eine ganz eigene art," says Goeze, "und unterscheidet sich von allen ubrigen standhaft durch folgende unveranderliche karaktere:

1. durch

The stomach evacuates its contents into the **INTESTINAL CANAL**, which is continued through the worm, more or less contracted or dilated, until it terminates in the anus.

The contents of the stomach and intestinal tube are always of the same colour, a dark brown.

THE FEMALE worm has (besides the viscera I have described) an apparatus subservient to generation. It begins by a slender tube leading from the small punctiform opening or **pu- denda**, situated nearly in the middle of the body of the worm. It soon becomes much larger, embraces the intestinal tube in every direction, and fills up the cavity of the worm. This gyrate uterus is not bifurcated as in the *ascaris lumbricoides*, nor has it those filiform appendages. Its end or fundus is as large as any other part. When viewed with the microscope, it appears like a bladder distended with worms, for its young are distinctly seen moving about from one end to the other.

1. durch den, wie eine Morferteule, gestalteten Saugkanal und Magen.
2. durch den, wie eine pfrieme oder Schusteraale, in die feinste Spike zulaunfenden, Schwanz."

GENUS

GENUS II.

Species I.

TRICHURIS VULGARIS.

Latin. Trichuris.*English.* The long Thread-worm.*French.* Le ver a queue.*German.* Der Schwanzwurm.

SYNONYMS.

Trichuris. *Wagleri* & *Roederer de morbo mucoso*, &c.Trichuris intestinalis. *Wrisberg de animal. infus.* p. 6.Ascaris Trichuria. *Schroeter, dissert. Inaug. de ver-*
mibus. C. H. p. 16.Der Schwanzwurm. *Blumenbach, hand. der natur.*
& *Bloch. Abband. von der*
Erzeug. der Eingeweide-
*wurmer.**Essential Character.*Body large and furnished with a proboscis.
Tail twice as long as the body, and filiform.*Description.*SIZE. The body, when full grown, equals
in breadth the sixteenth of an inch. In
length

length the whole worm measures nearly two inches, two-thirds of which are tail; hence the French call it *le ver a queue*.

The large extremity of the trichuris is the **HEAD**, out of which proceeds a kind of proboscis, not always visible; for the animal has the power of ejecting and drawing within itself this instrument at pleasure.

THE BODY may be said to begin at the basis of the proboscis; it is the thickest part of the worm, and the most so at the extremity, where the proboscis is received. It gradually diminishes in size as it proceeds, and forms about one-third part of its length.

The **TAIL** commences where the body terminates. It is twice as long as the body, and appears like a fine hair, gradually becoming smaller, and at length terminates in a very fine point.

Number.

I have seen upwards of twenty in some faeces of a child of six years old, and, according to the account of Blumenbach, they are, in general, in considerable number.

Situation.

Situation.

Wrisberg, Blumenbach, and others, have found these worms in the intestinum rectum, in the inferior part of the ileum, and also in the jejunum, mixed with their pultaceous contents. I have never seen them after death but in the cæcum.

Colour.

Like the vermicular ascarides.

Motion.

The only worm I have had an opportunity of examining alive, was that from which the drawing annexed was taken. Its motion was by no means vivacious, which would appear to arise from a want of power, as the animal died soon after. About a minute before its death the proboscis was withdrawn, and suddenly elongated three or four times, when it gradually curled itself into the shape in which it is represented, and was never observed to move after.

Sex.

Goeze has given a drawing of a female trichuris, and says it has no proboscis (the proboscis

proboscis he supposes to be the male organ of generation) ; but, as I have carefully dissected those which were, apparently, without the proboscis, and find no material difference in the viscera, I am inclined, at present, to doubt the fact. If the apparatus contorted in a serpentine manner be peculiar to the female, and be considered as the ovarium, why should it exist in a male worm ?

Anatomical Observations.

This curious and singular animal is supplied, like the foregoing genus, with annular muscles, cutis, and cuticle.

The proboscis, which is undoubtedly the head of the worm *, appears to be formed of a transparent substance, and contains a canal which is continued through the pulpy or funnel-like portion to the stomach and intestine.

THE STOMACH AND INTESTINE are formed by a long canal, which proceeds in a direct line from the head to the very extremity of the worm. It is largest at its beginning,

* Goeze considers this proboscis as the penis, and says the other extremity is its head ; and in the female drawing he makes the filiform extremity the tail, and the other the head.

and

and continues of the same size throughout the body of the animal; and when arrived at the place where the tail commences, it suddenly becomes considerably less in diameter, and terminates in the anus.

The remaining viscus, or OVARIUM, is a convoluted canal similar to that of the female vermicular ascaris, but is seldom found embracing the intestinal tube. The contents of this canal are ovula and a limpid fluid. I have never seen any young worms.

ORDER

ORDER II.

GENUS I.

Species 1.

TÆNIA OSCULIS MARGINALIBUS.

English. The tape or long joint-worm.

Latin. Tænia cucurbitina, Solium.

French. Le ver solitaire.

German. Der Kurbiswurm.

SYNONYMS.

Vermis cucurbitinus. *Plateri praxis medica.* p. 992.

Catena de cucurbin. *Valisneri opera in folio,* p. 177.

Vermi cucurbitini. ——— *neuve observazioni.*
p. 174.

Lumbricus latus. *Tyson philosoph. transf.*

————— *De Haen ratio medend.* p. 12. c. 5.
p. 210.

Tænia solium.

——— sans épine. } *Andry. gener. des vers. cap. 3.*
art. 2. p. 74.

Ver cucurbitaire. }

Tænia cucurbitina. *Pallas elench.* p. 405.

————— *Vogel de cog. & cur. corp. hum.*
affect. p. 146.

Tænia articulos demittens. *Dionis dissert. de tænia.*

Tænia secunda. *Le Clerc hist. lumb. lat. tab. i. a. tab. ii.*

Tænia solium. *Linnæi syst. natur. edit. 12.* p. 1323.

Tænia a longues articulations. } *Bonnet. mem. des sav.*

Tænia anneuxs longues. } *etrang. v. p. 1.*

Essential Character.

The oscula are situated upon the margin of each articulation, and the ovaria are disposed in an arborescent form.

Description.

This animal consists of an head * placed at the smallest extremity, and a chain of articulations more or less broad or long, which gradually enlarge as they advance, and at length terminate in a tail, formed by a rounded joint. Each of these joints contain their proper viscera.

EXTERNAL STRUCTURE OF THE HEAD. When viewed by the naked eye, and lying upon a flat surface, three projections present themselves, one anterior, and the other lateral. But if the head be held up, and its extremity viewed attentively, five projections are conspicuous; one situated directly anteriorly and in the middle, and the other four backwards, and laterally.

* Linnæus strenuously denied that the tænia had any such head, as appears from many parts of his writings.

The anterior projection is the proboscis of the worm. When examined by the aid of glasses, it presents a protuberant margin, surrounding an excavation of a striated appearance like a star. In the centre of this is an orifice or mouth leading to a canal, hereafter to be mentioned. The stellated appearance, when more minutely examined and enlarged by the magnifying lens, is found to be composed of two series of radii, with little bulbs or vesicles corresponding to the number of fibrils, with which the margin is beset, and which gives it a laciniated appearance. These laciniae* are by some said to be vaginal, including fucorial bulbs, whence they have named them "*vaginæ sugentes*."

Passing backwards we come to the neck of the proboscis, which, as it advances towards its basis, becomes flattened and broader. Its basis is quadrangular, and has an hollow protruding tubercle or osculum at each angle. It then becomes considerably flattened, and forms a thick margin, which receives the

* Tyson calls them *spiculi hamati*, and they are the *uncinulae* of Pallas and Loeske.

superior or adjacent margin of the next joint.

THE EXTERNAL STRUCTURE OF THE JOINTS. In this species of *tænia* the joints differ very much in the same worm. Their figure is by no means characteristic. They are, for the most part, oval, rhomboidal, oblong, or quadrangular, and generally have a great resemblance to large cucumber seeds; from which circumstance the detached joints have been named CUCURBITINI. They are shortest near the head, and their length towards the tail is sometimes exceeded by their breadth.

When the surface of a joint is viewed by a microscope, directly after it has been wiped with a sponge, it appears rough and villous, but it soon becomes covered with a white tenaceous liquid, which exudes through the pores of the skin. If this liquid be again wiped off during the life of the animal, it is quickly renewed. May not the villi be exhaling vessels? On the margin of each joint, near the middle, is an osculum, and none on the opposite margin of the same joint. It sometimes happens that a joint is furnished with more than one osculum. They have frequently

frequently been observed with three or four. I have in my possession a joint with five oscula upon one margin. May not this throw some light upon the propagation of the joints? But, in general, the next joint has its osculum situated on the margin of the opposite side, so that it alternately changes. This order, however, is seldom preserved throughout the whole tract of the worm, for they are sometimes on the same side for several joints together, but they never are situated on the flattened surface; hence their being marginal is an essential character of this species.

Anatomical Observations.

I have never been able to detect but one membrane in the tænia, which is very porous and elastic, and which I am induced to believe, from some experiments, is endowed with nervous power. Tæniæ, therefore, have no cuticle.

THE HEAD. The head is composed, like the other parts of the worm, of cutis and muscular fibres. The fibres, however, are not in any regular order, but appear to run in every direction, and are united together

gether by a connecting cellular membrane.

The head contains also within it the beginning of the alimentary canal, which originates from the mouth by a simple tube or œsophagus, that bifurcates near the basis of the proboscis. This bifurcated alimentary tube proceeds from the head near each margin of the worm to the other extremity.

Through this canal the animal conveys the chyle to every part for its growth and increase.

INTERNAL STRUCTURE OF THE JOINTS. When the cutis is removed the muscles of the worm are laid bare. They are of a white colour, very much resemble the coagulable lymph, and are disposed into two orders, evident to the naked eye.

1. *The longitudinal* or external muscles, which are of a strong, firm texture, running parallel to each other in the direction of the worm, being firmly attached to a kind of ligamentous band, and placed along the articular receiving margin of each joint.

2. *The transverse* muscles, which are situated under the longitudinal, and across the joint transversely from one extremity to the other.

other. I have never detected any point of adhesion at the margins, and believe them to be annular.

When the *longitudinal* muscles contract the length of the joint is diminished and drawn forward.

The *transverse* muscles act by diminishing the breadth of the joint, and sometimes render it almost round.

Each articulation, or joint, is furnished internally with two distinct kinds of vessels, the alimentary tube and the ovaria.

The rest of the joint is composed of a connecting cellular substance.

ALIMENTARY TUBE *. I have already described the beginning of this canal in the structure of the head, at the basis of which it divaricates into two distinct canals, which are continued near the margins from one extremity to the other, and in the extreme joint, where it is impervious. This longitudinal tube is also supplied with transverse canals. There is always one sent across each joint along the articulatory receiving margin to the canal on the opposite side, with which

* Le Clerc was the first who discovered this canal, but he had not the most distant idea of its use.

it has a communication, so that the contents of one tube are, with great facility, communicated across to the other. As these canals are not to be detected except by injecting the worm, it may not be unacceptable to my readers to relate the method I usually pursue. Having prepared my injection *, and soaked the injecting syringe, and the portion of the worm, for some time, in warm water, I make a longitudinal incision with a lancet, near the margin of the joint, and introduce the point of the syringe filled with injection, taking care that its head is turned towards the head of the worm, and then make a gentle pressure on the syringe, when the injection will soon be observed running along the sides of the worm, and several yards may be injected by one push. When the worm is thus injected, it should be carefully dried and

* The injection for this purpose is prepared in the following manner. Take of fine parchment shavings one handful, and boil them in three pints of soft water to a pint and a half; and then strain it through a very fine gauze sieve for use. Of this size I generally take a small cupful, and mix as much finely levigated Chinese vermillion, or any other colouring matter, as is sufficient to give it the desired shade. The syringe I usually employ is, an oyster syringe with a quicksilver tube,

put

put into oil of turpentine, when the longitudinal and transverse canals will appear very distinctly.

OVARIA. Each individual joint has a vascular structure situated between the longitudinal canals, occupying the middle of the worm. It is always disposed in an arborescent form, and is termed the *arborescent ovaria*, from its resemblance to a tree, being composed of a middle canal or trunk, and lateral ramuli. There is a communication between this arrangement of vessels and the osculum on the margin, by means of an intermediate canal, which, in some joints, is filled with a brown matter. The ovaria are generally filled with an opaque fluid, very like chyle, which is said to contain ovula. In some joints, and mostly those near the tail of the worm (for these are generally more transparent than the rest), this circumstance is evident to the naked eye, especially if the joint be put on blue or black paper.

If some of this opaque chyle-like fluid be taken out of these canals and exposed to view in a good microscope, it is said to exhibit ovula of different sizes, from the largest of which very slender tæniæ have been seen to escape

escape upon rupturing its ovum, contorted in a spiral form, and having conspicuous traces of articulations, and one extremity acuminate, the other obtusely broad *.

Of the Connexion of the Joints.

The joint next to the head is received into the basis of the head, and it, in like manner, receives the beginning of the next joint, which order is observed throughout the whole extent of the worm. Thus the inferior margin of joint, or that towards the tail, is called the receiving articulatory margin, to distinguish it from the other which is received. The receiving articulatory margin is supplied with a ligamentous band, to which the longitudinal muscles are attached, which firmly embraces the next joint. This margin may always be known from the other by its being largest, and by its being fringed, whereas the other is plain, and somewhat rounded.

Of the Separation of the Joints of this Worm into the VERMES CUCURBITINI.

The joints of the tænia osculis marginalibus are very easily separated from each other

* Vide Goeze.

whilst

whilst the animal is alive. This separation is effected either by the peristaltic motion of the intestines, or, perhaps, spontaneously. Each joint thus detached from the mother worm, has the power of retaining, for a considerable time, its living principle, and is called, from its resemblance to the seed of the gourd, *vermis cucurbitinus*. This phenomenon has given rise to many warm disputes; several authors have denied their being portions of *tæniæ*, and have affirmed that they were distinct worms; but of this hereafter. The separated joints do not appear capable of retaining their situation for any length of time, but are soon forced down the intestinal tube, and at length creep out, or are expelled *per anum*. I knew a man who had been for some time troubled with this species of *tænia*; whenever he took an ecoprotic medicine, he voided upwards of forty detached joints with his *fæces*; and, I remember a female patient, who was always tormented by their creeping *per anum* two or three hours after dining, without the exhibition of any medicine. Such eliminations are common to all who nourish this worm.

Thus

Thus it is evident that the joints of this animal exist for a time when separated from each other. I have kept them alive, and fed them for two or three days together; but I do not believe that they are capable of living any length of time in the intestines, when perfectly detached.

I am inclined to believe that the vermes cucurbitini have not the power of propagating the species, i. e. of forming fresh joints; I conceive that property to be peculiar to the head; but this is to be considered as mere hypothesis, cherished by the two following circumstances: 1st. That their expulsion always succeeds their being detached; and, secondly, that the separation of the joints appear to be the only means of insuring the worm a continuance in its sphere; for, were the head to continue multiplying the joints, and the joints have the same power, they would soon obliterate the cavity of the intestinal tube, and, consequently, effect their own expulsion.

Of the Formation of fresh Joints.

There are several cases faithfully recorded, and several have come under my own care, where

where the persons, if their veracity can be depended upon (and they had no interest in deceiving), have voided, during the time they were troubled with the worm, upwards of fifteen thousand. I have attended several patients who were martyrs to the ravages of this animal for upwards of seven years, and the number of joints which during that period have been evacuated, are beyond all conception; from some, upwards of fifty per day, and seldom fewer than twenty.

When a specific is administered, and the *whole* worm or worms is brought away by stool, no more portions are ever known to follow. But experience teaches, that when all is voided except the head, that then in a short time after, fresh joints are generated, and the patient is as much troubled with them as before.

Thus it is evident that the formation of the joints is proper to the head of the animal, and, I believe, to it alone.

Number of this Species of Tænia.

It is not, in general, solitary, as is commonly supposed; Herrenschwanz, Madam Noufer,

Noufer, and others, mention their seeing several come away, at the same time, from their patients.

Situation.

They are always found in the *jejunum* and *ileum*, occupying their whole extent.

Colour.

Tæniæ are mostly of a pale white, but the colour varies in different worms. They are not unfrequently of a light brown cast, which, in all probability, arises from living on the chyme, or on chyle mixed with some bile.

Motion.

The motion of tæniæ is undulatory. The first joint towards the head contracts, the succeeding ones follow successively, and the worm is at length drawn considerably forwards, exactly in the manner that the earth worm is seen to move, but not near so rapidly. By this means the food taken in at the mouth of the worm is very soon conveyed all along the alimentary canal. I have detected milk mixed with a colouring matter
running

running along this canal in the above manner with considerable rapidity.

Sex.

There can be very little doubt of *tænia* being hermaphrodite. The oscula are believed to be viscera, subservient to the propagation of the species*, and they can be proved to give exit to the ovula.

Length.

Boerhaave mentions his meeting with a *tænia* thirty ells in length, and Pliny says he has seen them upwards of thirty feet long. The exact length, however, depends upon the manner in which the death of the animal was occasioned. If expelled by irritating

* This is the opinion of the ingenious Mr. Carlisle, who says, "In a *tænia* which I obtained before it was dead, I observed, at one part where it had formed a knot upon itself, that two pairs of these oscula were in contact with each other, and were agglutinated together by a viscid mucus. I was not at that time aware of the possible nature of this connexion, and neglected preserving them in that state. I now suspect, however, that they were in the act of copulation, and that a mutual influence takes place previously to the formation of ova. Vide Transactions of the Linnean Society, vol. ii. p. 255.

medicines,

medicines, it will not be as long by nearly one-half, as if its death had been occasioned by emollients; for, in the first instance, it would be very much contracted, but in the latter, very much relaxed.

OBSERVATIONS.

Dionis, in his treatise upon tænia *, has called this species tænia articulos demittens, in consequence of the frequency of its parting with its joints; and this circumstance has given rise to innumerable errors.

The Arabian physicians observing these detached portions come away alive, and not thinking it possible they could be joints of another worm, believed they were a distinct species, and described them accordingly.

Others, finding several of the joints articulated together, believed it to be in consequence of suction †.

Those who could not conceive how the angles and vessels could correspond so exactly, supposed they were all surrounded by a common membrane, which Van Helmont

* Dissertation sur le Tænia ou ver plat. p. 14.

† Vide Larthuser fundam. path. tom. ii. p. 203.

assures us has its origin from the intestinal mucus.

Linnæus arranges them amongst the polypi, and many very learned authorities appear to favour his opinion. The following is an extract from one of his letters to Baron de Haller. *Tæniam examinavi, et reperi 14 vivas integras, quæsi caput quod omnes medici in lumbrico lato, quæsi verunt, sed frustra; falsissimum est caput, quod Tulpius habet in observationibus, et frustra quæritur caput, nam caput est in singulo articulo, et os in singulo articulo, in una specie subtus, in altera ad latus. Nullus mortalium potuerit intelligere hunc vermem, qui non intellixerit polyporum naturam, et propagatur secedentibus articulis, dum quilibet articulus vivit et accrescit in perfectum corpus: inserui actis Upsaliensibus nunc imprimendis *.*

Some believe the lateral oscula to be the mouths by which they take in their food, and, at the same time, consider them as excretory vessels. Coulet † and Ernst are of this opinion, the latter expresses himself thus: *Nihil*

* Vide Linnæus in Collect. Epistol. ab erud. viris ad Haller. Tom. 2. p. 411.

† Tractatus Hist. de Ascarid. l. c.

ergo restat quam statuere idem orificium absorptioni chyli et excretioni excrementorum inservire. Objectio enim quasi nulla excrementa ejicerent isti lumbrici, quia merum chylum ederent, nulla est; alias infantes puro lacte viventes nihil excrementitii haberent; nec absurdum putes hoc ben. lect. si idem osculum et deglutitioni et excrementis largior. Stella enim marina unicum in superiori superficie habet orificium quo artificiose prædam arripit, devorat, et quicquid est excrementitii, per idem orificium reddit, nonne idem nostræ Tæniæ natura diversimodo ludente privilegium concedi potuit *?

Bonnett appears in one part of his treatise on insects, to favour a similar opinion, although he expresses himself very differently in other places. Speaking of a species of tænia he observed with two oscula on the flattened surface, he says, “ Ces petits viscères analogues à l'estomac et eux intestines communiquent avec les stigmates; et si le plus grand de ces stigmates fait le fonction de bouche, on presume assez que l'autre s'acquitte de l'anus †.”

* Vide Ernst. Dissert. Inaug. de Tænia secunda Plateri.

† Vide Bonnett Traité d'Insectologie.

The same author considers them as organs of respiration *. The arboreſcent ovaria are, by thoſe who believe the oſcula to be the true mouths which convey nourishment to the worm, taken for chylopoëtic veſſels, and their ovula for ſmall glands † or pieces of fat, or young polypi ‡.

The four fuckers at the head, Andry aſſures us, are their eyes § ; and Mery is willing we ſhould conſider them as the animal's noſtrils ||. The obtuſe extremity has been taken for the head, and the true head for the tail **.

It is ſomewhat ſingular that ſo many accurate obſervers in ſeveral nations have, during many centuries, pretended that there never was but one of theſe tæniæ in the ſame individual, from whence aroſe the name of SOLIUM, and by the French *Le ver ſolitaire*.

It appears to me ſuperfluous to prove the

* Vide Bonnett, l. c.

† Vide System. Natur. Linnæi, tom. i. p. 1323.

‡ Vide tom. iv. des Memoires des Curieux de la Nature a Berlin, p. 218.

§ Andry ſur la Generation des ver. loc. cit.

|| The ſame book.

** Le Clerc Hiſtor. Lumbric. lator. p. 165.

fallacy of these and various other ridiculous opinions, and to refute them; for having, I trust, satisfactorily demonstrated, that they have heads, and the head an apparatus by means of which it absorbs the nourishment, which passes from thence to every articulation of the worm; that the oscula, and the various ramifications which are observed in the internal part of the joints, are subservient to generation, and that ovula pass from thence into the intestinal canal; and as it is sufficiently proved that these tæniæ, as well as other worms of our intestines, exist only in the human body, and that in society, I think all further refutation needless.

Species 2.

TÆNIA OSCULIS SUPERFICIALIBUS.

English. The broad tape worm.

German. Der Breite Bandewurm.

Latin. Tænia lata.

French. Le tænia large de l'homme.

SYNONYMS.

Tænia prima. *Plateri prax. medic. c. 14.*

Lumbricus latus seu Tænia intestinorum. *Plateri edit. ult. tom. iii. p. 816.*
Tænia.

Tænia. } *Andry generation des vers. c. 3.*
 Solium a epine. } *art. 2. p. 73.*

Tænia articulos non demittens. *Dionis dissert. de tænia.*

Tænia prima Plateri. *Le Clerc hist. lumb. lat. tab. 5.*
fig. 1. tab. 6. fig. 2. tab. 7.
fig. 1. & tab. 8. fig. 1. 2. & 4.

Tænia lata. { *Linnæi System. natur. edit. 12. p. 1323-4.*
Pallas Elench. Zooph. p. 450.
Dissert. de inf. viv. p. 35.

Tænia osculis lateralibus solitariis. *Linnæi Syst. natur. edit. prim. n. 3. p. 324.*

————— geminis. *Linnæi Amæn. Acad. t. 2. p. 78. tab. i. fig. 2.*

Tænia vulgaris. *Linnæi System. natur. edit. ult.*

Tænia a anneaux courts. } *Bonnett Memoires des*
 ——— articulations courts. } *Scavant. Etranger.*
vol. i. p. 478.

Tænia acephala. } *Vogel de cog. & cur. corp. hum.*

Tænia capitata. } *affect. 1772. p. 645-6.*

Der Breite Bandewurm. *Mulleri System. Linnæi, vol. vi. p. 707.*

Essential Character.

The oscula situated on the flattened surface of each joint. Ovaria disposed like a star round the osculum.

Description.

It is composed of a head. a chain of articulations, and a tail formed of a round joint.

THE HEAD is similar to that of the other species.

THE JOINTS are more uniform in their appearance than those of the *tænia osculis marginalibus*. They are considerably more broad than long, and their oscula are not placed on the margin, but in the middle of the flattened surface, and only on one side. I have never seen them change their side, but have always observed them on the same side throughout the whole extent of the worm.

In every other respect the description of this species agrees with that which I have given of the other, except that the ovaria are in the form of a rose or star, hence they are called by some writers *Ovaria rosacea*, and others *Stigmates rosacées*; and that the transverse canals by which there is in the other species a communication between the longitudinal canals, are in this wanting.

Separation of the Joints.

In regard to the separation of the joints, it is to be remembered, that this species seldom or ever parts with any; and when it does, it happens from some increased peristaltic motion

tion of the intestines (and not spontaneously) by which a portion is torn asunder, and passes off with the fæces : thus Dionis has called it *Tænia articulosa non demittens*. This, however, is no characteristic of its species, for when the worm is come away, how are we to know whether it ever sent off any joints ?

Number of this Species of Worm.

Uncertain. Seldom more than three or four ; but this number is by no means unfrequent.

Length.

This species of *tænia* seldom exceeds five yards in length.

Situation.

It is always situated in the small intestines, and it would appear that it feeds on no other food than pure chyle.

Colour.

It is for the most part of a darker hue than the former species, nevertheless I have seen it as white as milk.

T 4

Motion

Motion and Sex.

Like those of the other species.

OBSERVATIONS.

This species of *tænia* is very seldom met with in this country, but is endemic in Switzerland and Russia *, and very common in Germany and other parts of Europe.

It is no uncommon circumstance in the countries where this species is endemial, to have it come away before it has arrived at its full growth, and this occurring so frequently, has given rise to the name of *TÆNIA TENELLA*, which is by many considered as a distinct species, though, in reality, no other than the worm we have just described, differing from it in size only, having every thing else in common with it.

Linnæus enumerates another species of *tænia*, which he says has two oscula on each joint, one placed upon each side, and which he terms *TÆNIA VULGARIS*. This, which at most can only be a variety, is called by

* Vide Cartheuser libellus de morbis endemiis.

Pallas LE GRIS, who says it is of a white colour, and that easily changed into a griseous one by spirit of wine. As I have never had an opportunity of observing this worm, I pass it by—probably it is only met with in Switzerland.

EXPLANATION OF THE PLATES.

ASCARIS LUMBRICOIDES.

Fig. 1, represents the worm as it appears when recently voided from the bowels.

- a.* The head.
- b.* The tail.
- c.* The depressed band.
- d.* The punctiform aperture.
- e.* The line extending from the head to the tail.
- f.* The gyrate apparatus as it appears through the skin of the worm.

Fig. 2, represents the viscera of the worm in their natural situation; the sides of the skin being fixed down by pin-heads.

a. The

- a.* The head.
- b.* The œsophagus.
- c.* The intestinal canal.
- d.* The lines of the body of the worm.
- e.* The uterus and its convoluted appendices.

Fig. 3, represents the uterus, its bifurcation, and its appendices, as they appear when unravelled.

Fig. 4, represents a portion of the worm, as it sometimes escapes from the bowels: part of the convoluted apparatus protruding through the parietes of the abdomen,

Fig. 5, represents the head enlarged by the microscope, in which the three vesicles, and the triangular mouth, are seen very distinctly.

Fig. 6, represents the anus and termination of the perpendicular line.

ASCARIS VERMICULARIS.

Fig. 1, exhibits the worm in its natural size.

Fig. 2, represents a very frequent appearance of this worm when viewed by the microscope.

- a.* The head.
- b.* The tail.
- c.* The pistilliform stomach.
- d.* A convoluted

- d.* A convoluted apparatus that furrounds the intestinal canal, which is here and there very obvious.
- e.* Most probably the anus.
- f.* The external part of the organs of generation.

Fig. 3, exhibits another appearance of the vermicular ascaris, when enlarged by the microscope.

- a.* A bladder-like appearance about the head.
- b.* The external part of the organs of generation through which an immense number of ova and young worms have been observed to escape.

TRICHURIS VULGARIS.

Fig. 1 and 2, represent the natural size of this worm, which is sometimes convoluted and sometimes straight.

Fig. 3, exhibits the worm as it appeared through the microscope.

- | | |
|-----------------------------------|-------------------------|
| <i>a a.</i> The head. | <i>b.</i> The tail. |
| <i>c.</i> The proboscis. | <i>\</i> A hollow tube. |
| <i>d d.</i> The intestinal canal. | <i>x</i> The ovaria. |

TÆNIA OSCULIS MARGINALIBUS.

Fig. 1, a portion of the worm of its natural size and usual appearance.

- a a.* The marginal oscula.

Fig.

Fig. 2, a portion of the worm injected, to shew the intestinal canal.

Fig. 3, exhibits the arborescent ovaria, as they appear between the intestinal canal, when injected with their natural fluid or quick-silver.

Fig. 4, the head of its natural size.

Fig. 5, the head enlarged by the microscope.

Fig. 6, a full view of the head, as it appears when very much magnified.

- a.* The oscula at the basis.
- b.* The protuberant margin, and stellated appearance.
- c.* The mouth.

Fig. 7, a detached joint of the usual size.

- a.* The extremity which is received.
- b.* The extremity which is supplied with the ligamentous band to receive the next joint.

Fig. 8, exhibits a full view of an osculum, from which a dark line is seen running inwards; this is sometimes a frequent occurrence, and is often observed in many joints, as in fig. 9; it is a canal, distended with a dark pulpy substance, but has no communication, that can be detected, with the intestinal canal or ovaria.

TÆNIA

TÆNIA OSCULIS SUPERFICIALIBUS.

Fig. 1, exhibits the largest and most extreme portion of this worm with its superficial oscula. The head is similar to that of the tænia osculis marginalibus, with this difference only, that it is much more filiform.

Fig. 2, represents a portion of the worm with the intestinal canal and ovaria as they appear when injected.

N. B. The tail is here delineated as terminating in a rounded joint, which is the most common mode of termination; nevertheless, it is sometimes seen terminating by a bifurcated apparatus, and each fork has been observed, since these drawings were engraved, to have four or five tentacula.

ARTICLE XXVIII.

A short Memoir on the Antivenereal Effects of several Acids, and other Remedies, which have been lately proposed as Substitutes for Mercury in the Cure of Syphilis.

By Mr. BLAIR, SURGEON OF THE LOCK HOSPITAL, &c.

“ Pluris est oculatus testis unus quam auriti decem :
Qui audiunt, audita dicunt ; qui vident plane sciunt.”

PLAUTUS.

Read FEBRUARY 19, 1798.

ABOUT the middle of October last, I announced my intention of soon publishing the first part of a work, to be entitled, *Essays on the Venereal Disease*, which should exhibit the result of my experience in numerous cases wherein the nitrous acid, and other remedies containing a large proportion of oxygen or vital air, had been given for the cure of the lues venerea : but, several unforeseen occurrences

rences having prevented the immediate execution of my design, I have been solicited in the interim to furnish the *London Medical Society* with a few hints on this subject. In compliance with that request, I beg leave to submit the following cursory observations to their consideration; reserving a more detailed account for a future occasion, when I shall likewise have an opportunity of examining the merits of several reports which have been recently published on this topic, both in England and upon the continent.

It will be unnecessary, in this place, to recite what has been advanced in behalf of the new antivenereal medicines, improperly so called, and the hopes which have been expressed, not only "that mercury will be banished" by these means, but "that the poison of syphilis may be extinguished:" suffice it to say, that the high-sounding encomiums which have been lavished on these remedies, induced me to give them a fair and unprejudiced trial in about sixty cases; the greater part of which were well marked instances of a confirmed syphilis, where either venereal blotches, nodes, ozæna, or ulcerated fauces, were present.

The acid of nitre, which I administered, was procured partly from Apothecaries Hall, and partly from private chemists; the oxygenated muriate of potash was obtained at first from Mr. Coxwell, near Temple Bar, but afterwards (by the recommendation of Dr. Rollo and Mr. Cruickshank) from Mr. Speed, of Cannon Street: no difference, however, was observed in the effects of these remedies, thus variously supplied; nor did I find the *nitric* acid to be more efficacious than the *nitrous*.

The trials I have made were conducted either at the LOCK-HOSPITAL or at the OLD FINSBURY DISPENSARY: in the former, I desired the nurses to see the patients take each dose exactly at the times, and in the proportion I prescribed; and although this could not be done at the Dispensary, I have no reason whatever to suppose any deception was used by a single person at that institution.

To prevent all suspicion of my not having given these remedies in their full extent, I have usually continued the treatment from four to eight weeks, according as the events of the cases justified my expectation or procedure: in some of them I used the nitrous
acid

acid first, and then the oxygenated muriate of potash; but without any difference in the result. The acid has been given in the quantity of two or three measured drams daily, seldom more, till from one hundred to an hundred and sixty-five drams were taken in the whole. I have several times given the oxygenated muriate of potash internally, to the amount of two hundred grains a day; but it could not be used externally, after the method of *Mr. Alyon and Dr. Swédiaur at Paris*.

In a word, I have uniformly “endeavoured to bring every thing to the test of truth,” as Dr. Geach very properly requires; and have bestowed more pains in the administration of the “*new specific*,” so called by an ingenious professor of pneumatic chemistry, than I ever found necessary in the application of the old one: therefore, if my success has been contrary to my wishes, the fault cannot be justly attributed to want of attention and perseverance.

It has lately been suggested, indeed, that “the positive evidence is such as cannot be invalidated by negative; especially as the facts to be brought forward will account for the general failures.” I shall be extremely happy

to learn from *Dr. Beddoes* what those facts are? and wherein my plan of treatment differs from that of more successful practitioners?

It has also been alledged that these remedies act not only speedily and certainly, but *tutò & jucundè*. This assertion must, however, be received with some degree of caution; for, now and then, great inconveniencies have arisen from their use; such as violent cardialgia and corroding pains in the stomach, distressing sickness and diarrhoea, a sense of weight and burning in the course of the intestinal canal, accompanied with giddiness, crethismus, and irregular palpitation of the heart and arteries.

Painful experience obliges me to confess, notwithstanding the many instances of lues venerea which are said to have been happily treated by the acid and the potash, that I am perfectly sceptical on this subject, and cannot believe either of them to have succeeded completely *in a legitimate or confirmed syphilis*: for, although I have several times witnessed the disappearance of very bad symptoms, and been highly gratified by my apparent success, I have, sooner or later, in almost every instance, seen either the same or
a worse

a worse train of evils recur; and, in a few cases, this has happened even before the patients had discontinued their medicines. The most clear and palpable evidence, after numerous trials, has therefore compelled me to adopt an unfavourable conclusion.

The narrow limits I have prescribed to myself in drawing up this memoir, allow me only to add, that nothing but the high respect I owe to the public opinion, which has been strongly and prematurely biased in favour of these remedies, could have encouraged me to deviate thus far from the established mode of treatment; and nothing but a sincere desire to vindicate the truth and prevent the mischief which must arise from a number of fruitless experiments, could have emboldened me to step forward in opposing that opinion.^a

Too much cannot be said to dissuade gentlemen from relying on the "new specific," nor can too great discretion be recommended in the use of the old one. Mercury, as an antivenereal remedy, has stood the test of full three centuries; but oxygen, although a more innocent medicine, appears to be only the ephemera of speculative philosophers.

The editor of a late French publication has

thrown out a judicious hint, with which I shall close these observations. “*Si la médecine en effet est si peu avancée, ou si la pratique est en général si dangereuse, c’est par l’inexactitude qu’on porte presque toujours dans l’observation des faits; c’est par la légèreté avec laquelle on se décide en faveur d’un remède qu’on veut mettre en vogue, et dont on est toujours disposé à exagérer les vertus.*”

W. BLAIR.

Great Russel-street, Bloomsbury,

Feb. 12, 1798.

ARTICLE

ARTICLE XXIX.

*Case of fatal Termination after the Bite of a
mad Dog.*

BY MR. JOHN HAYNES, SURGEON, CHIPPING
NORTON.

[Communicated by J. C. LETTSOM, M. D. &c.]

Read DECEMBER 19, 1797.

To the MEDICAL SOCIETY of LONDON.

ALTHOUGH I feel a reluctance to crowd
your volumes with recitals of single cases, I
see no objection to notice such as assist in ex-
plaining diseases, the cure of which is still
involved in obscurity. For the hydrophobia
we have yet no remedy : it becomes, there-
fore, more interesting to ascertain the means
of prevention, and with our inquiries, can-
didly to exhibit failure of success, of which

the following Case affords a melancholy instance, agreeably to the relation communicated by Mr. Haynes.

“ The subject of the unfortunate case I am about to relate, was servant to a gentleman in this neighbourhood, who, on the morning of the 9th of September 1793, in offering food to a bitch which had whelps, received a bite from her in the hand. Unsuspecting of her malady, he attempted to strike her, upon which the enraged animal bit him a second time in the same hand. An attack so furious and unexpected a good deal surprised him, and, upon his mentioning the circumstance to his fellow-servants, an alarm was excited; the bitch was therefore properly secured, but not till she had in her fury destroyed her own whelps, and, in the course of the day, she died in the most violent state of madness. These very suspicious circumstances, one would have expected, would have induced the poor man to have applied for medical aid, but this, contrary to the advice of his friends, he neglected doing till the fourth morning after the accident; he then came for my advice. I observed to him how imprudently he had acted in not making his application sooner,

sooner, as I was fearful the interval was too long to render any assistance effectual ; I did not, however, hesitate in recommending the immediate excision of the parts, and this the patient very readily complied with. There were four wounds on his hand and fingers, which, being superficial, gave me an opportunity of carrying the knife to a proper depth ; they bled freely after the operation, which, I thought, a favourable circumstance ; after the hemorrhage had ceased, I applied a powerful caustic very freely to the parts, and covered the whole with a digestive. In wounds inflicted by mad animals, after the use of the knife, I should, in general, prefer the actual cautery to the caustic, when it can be safely applied ; but, in the present case, I thought an active caustic more safe and proper, considering the superficial state of the wounds, and their situation on tendinous parts. A liberal use of mercury, both internally and externally, was directed, the effects of which were evident on the constitution in the course of ten or twelve days, by the appearance of a gentle salivation ; this was moderately encouraged for the space of a fortnight longer, when the use of mercury was

omitted. After the separation of the eschars the wounds were kept open, and a free discharge excited from them upwards of a month, by an active mercurial preparation; afterwards all stimulating applications were laid aside, and the sores very readily healed over. These were the means I adopted in this very unpleasant case (as preventives); and they were such that will, I flatter myself, meet with the approbation of every ingenious mind. Mr. Kinglake, an ingenious practitioner of this place, saw the patient afterwards, and perfectly coincided in the plan of treatment I had pursued.

I had frequent opportunities of seeing and conversing with the man for some months after; he always met me with a cheerful and satisfied countenance, assured me he was perfectly well, and never felt the least inconvenience from the injury. The man continued in a state of perfect health, with the canine virus lying latent in his constitution, for the long period of nine months. On the 9th of June, 1794, he first experienced a sensation of tingling in the hand on which the injury had been received, gradually extending towards the axilla. Unsuspecting of the cause of the affection,

little notice was taken of it till the second day of the attack, when more urgent symptoms appearing, Mr. Harris, a medical gentleman near at hand, was applied to. On his visiting the patient, he found matters arrived to an alarming height; to the original affection of the arm, which was now converted into an acute pain, was superadded a frequent and violent convulsive action of the muscles of the neck and throat, with a most distressing impediment to swallow liquids, a quick full pulse, dry tongue, and every symptom of general irritation. Under these suspicious circumstances, Mr. Harris found no difficulty in discovering the real nature of the case; he immediately bled him, ad deliquium, ordered him an antispasmodic medicine for the evening, with an injunction that he should be kept quiet, and desired my attendance early in the morning. On my arrival, I found the patient labouring under the symptoms of hydrophobia, in their most violent and formidable state; the convulsive affection of the muscles of deglutition was now become almost incessant, which I observed was aggravated by the exertion of conversation and the sight of liquids. In this deplorable state of
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the case; as there was a total inability to swallow any thing fluid, a pill, containing two grains of calomel and one of opium, was directed to be taken every two, three, or four hours; according to the effect it produced, a liberal use of the unguentum hydragryri was likewise ordered, and the application of a strong anodyne liniment to the fauces. The friends of the patient were apprised of his real situation, and to prevent mischief, coercive means of restraint were directed, if rendered necessary by the violence of the paroxysms. After enjoining these cautions, I took my leave, and heard no more of the patient till the second morning after, when I was informed of his death.

The unfavourable termination of the above case does not, in my opinion, at all deduct from the merits of the means that were employed, which, could they have been applied sooner after the accident happened, I have but little doubt would have secured the patient from the fatal effects of this subtle virus.

JOHN HAYNES.

Aug. 24, 1794.

Mr.

Mr. Haynes, sensible of his having used the knife freely, seems to attribute the failure of success to the length of time between the bite of the dog, and the excision of the bitten parts, which was only four days. Dr. Rush, Dr. Percival, Dr. Mease, and other writers are of opinion, that the rabid matter does not produce the disease by absorption, and that excision will prevent it, provided the operation be performed at any period prior to the appearance of a rabid effect; were this established, which may admit of a doubt, Mr. Haynes's suspicion would be inadmissible. But as the inductions drawn by Dr. Rush, and others, have been rather from analogy than facts afforded by rabid cases, the reasoning of these distinguished physicians must be received with that hesitation which medical experience authorizes. Admitting that the rabid matter were merely local, there seems no other way of accounting for the want of success in the foregoing case, than by supposing that, with all the caution described by the ingenious writer, still the excision had not penetrated so deeply as the fangs or teeth of the mad dog's. I can conceive it very difficult in flaccid parts to effect this

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with

with certainty, and would repeat here what I have formerly suggested, the application of lapis infernalis, formed to a point, to be conveyed into the cavity or opening, that had been made by the tooth, and worked deeply as well as laterally, that the parts, as far as a tooth can have entered, may be thus destroyed. At the same time I do not object to excision by the knife, either before or after the application of a caustic. It may be asked why put the patient to the trouble and pain of two operations? The answer is evident, that lest the knife may not remove the parts as deeply as the tooth may have passed, for greater safety, in so desperate a state, the caustic may be pressed afterwards, if not primarily, into the bottom of the opening, made by the bite and the excision.

I do imagine, that the application of any mineral caustic in a fluid state, as oil of vitriol, or spirit of sea salt, might answer the same purposes as the lapis infernalis, by pervading every cavity that the tooth could possibly form, and by destroying the flesh, stop the possibility of any progress of the fatal poison.

It is natural for the enlightened practitioner,

tioner, let his experience be ever so extensive, to pause over the fatal issue of any extraordinary case committed to his care, and to ruminate in his own mind, whether any other means, than those already applied, could have promised more success.

In revolving over the plan adopted in the foregoing case, perhaps the most experienced practitioners would scarcely have deviated from it. The French writers, in that interesting volume, published by the Medical Society of Paris, on the Bite of rabid Animals, recommend the practice, as alone decisive and secure. Here was not only cutting out of the parts bitten, but likewise a caustic application, and finally a salivation. The latter remedy has been recommended by some writers as singly sufficient to prevent the rabies canina, and all have concluded that excision is effectual. But after every exertion, we have here a fatal issue, which affords a sufficient reason to attempt the preventive plan recommended, and further confirmed in the annexed paper by Mr. Norris.

ARTICLE XXIX.*

Case of the Bite of a mad Dog.

BY MR. NORRIS, SURGEON TO THE CHARTER-HOUSE AND GENERAL DISPENSARY.

Read DECEMBER 19, 1797.

ON Monday evening the 10th of June, 1793, Mr. Thaine came to consult me on account of some slight wounds that he had received on that day by the bite of a dog. The wounds were a laceration on the outer and inner sides of the forefinger, extending from about the middle of the first phalanx to the extremity of the finger; two superficial scratches on the back of the hand, and one on the inner side of the thumb near the palm of the hand.

I covered the parts with a little soft cerate, and informed him that the wounds were so trifling as to require very little attention.

But as it appeared that the creature had snapped at him without having been provoked, I advised him to see it, and examine whether it was in good health. The next morning he told me that he had seen the dog, who ate and drank as usual, was very quiet, and appeared to be perfectly well; that she had no foaming at the mouth, nor was her breathing quick, nor her eyes watery, circumstances which

which I particularly desired him to attend to. Having, therefore, nothing to mind except the trifling wounds already mentioned, I desired not to see him again until Friday; but on that day he called upon me very early, and was much alarmed.

He informed me that he had seen the dog the night before, that it was restless and unwell, and that it had bitten the maid-servant, an horse, and a pig. As he wished me to see the dog, I went in the course of the day to Turnham Green, where it was. She was a large sized mongrel, between the Newfoundland and the common mastiff breed, of what age I could not learn, as her present owner had had her only a year and a half; and I was told that, during that time, she had always been quiet and good tempered, and had never done any harm until she bit this gentleman.

Her look was downcast and fullen, her eyes, from which a clear fluid trickled, appeared heavy and languid, by no means red or inflamed, her tail was drawn between her legs, and she seemed to be extremely anxious and uneasy, frequently going to the length of her chain and lying down, then, in the course of a minute after, rising and changing her posture. Two or three times she went to

some water that had been placed near her, took a lap or two and then quitted it. Some bread being thrown to her, she chewed and swallowed it, but it was immediately after vomited, and she again swallowed and threw it up as before. During a quarter of an hour that I staid examining her appearance and motions, I observed that she dunged three or four times, and immediately after swallowed, or attempted to swallow, the fæces, which were soft, whitish, and frothy.

These were the principal circumstances respecting the dog that I thought worthy of being noted, except that, by the account of the people of the house, the creature had within the last three days shrunk and become surprisngly thinner. On the following day she died, and I was informed that before her death there had been a discharge of slimy matter from her nostrils, and that her mouth had been foamy, neither of which appearances I could discover the day before. I judged it the more necessary to give this account of the manner of the dog, as well as of the symptoms she laboured under (which, as I was in a place of safety, I could deliberately attend to), because such an opportunity, I believe, rarely occurs: a poor dog, that has
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the character of being mad, is either quickly destroyed, or else is so frightened by being hunted, pelted, and worried, that the genuine undisturbed progress of the disease cannot often be ascertained.

Although not perfectly satisfied of this being the true *rabies*, yet it seemed to be sufficiently probable to justify me in recommending what I believe to be the only certain means of prevention yet known, the removal of the wounded parts. This was, therefore, proposed, and would have been done early on Saturday morning, had not Dr. Sims, who was now consulted by Mr. Thaine, wished first to see and examine the dog. On Saturday the doctor and I went to Turnham Green, but the animal had been dead and buried some hours before we got there, and on this account the operation was not performed until Sunday morning, the sixth day after the accident happened.

I took off the finger at the joint which connected it with the metacarpal bone, and I dissected out the three other small portions, which were so superficially wounded, that it was only necessary to remove the skin. The doctor, in compliance with the wishes of Mr.

Thaine and his friends, permitted the Ormskirk medicine to be taken, and he prescribed so as to counteract fever.

In consequence of my request to be informed if any thing should ail the other person or the animals that had been bitten, I several times heard that they continued very well, until Friday the 12th of July, when I learned that the pig, which had been bitten on the nose, was very ill, and affected as the dog had been. On Saturday Dr. Sims and I went to Turnham Green to see it, but it had died that day about one o'clock.

The people informed us that the first appearances of illness in it had been observed on the Thursday before, when it was seen to be almost constantly shaking its head in a strange and unusual manner, and was very frequently rubbing its throat; that on Friday it lay in a stupid state, and did not attempt to do any injury, but that if touched with any thing, it would snap and endeavour to bite it. They said that it had been much agitated and convulsed about its belly, which, I imagine, was merely the effect of a quick and laborious respiration that I understood it had been distressed with.

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The owner of the dog immediately after the death of the pig, sent the servant and horse to be bathed in the sea, and I have been informed they continued well. But it is proper to observe, that the horse's skin was not divided by the dog's teeth, and that the injury received by the servant was so very superficial as that the blood barely appeared upon the part.

From the event of this case, and that of several others in a great degree similar, I am strongly of opinion, that by the removal or destruction of the wounded parts, *at any time previous to the appearance of the disease*, the dreadful effects from the bite of a rabid animal may be obviated.

In at least a dozen instances in which I have thus acted at various periods, from one day to a fortnight after the bites of animals suspected to have been mad, all have terminated well except one. This was the case of a poor boy that was brought to me within an hour after having been slightly bitten on the face; as from the report of the people who came with him, it seemed highly probable that the dog had not been mad, I contented myself with rubbing the part with the

lunar caustic. Three months afterwards, this boy died of the hydrophobia under the care of my friend the late Dr. Crawford.

It occasionally happens that the bitten parts do not easily or safely admit of extirpation by the knife; and sometimes the timidity of patients is so great as to prevent the use of that instrument. In such cases I recommend the application of the most concentrated vitriolic acid as superior to all other caustics, by its possessing the advantages of acting instantaneously, and not being disposed to spread, and also of its being capable of being readily conveyed by means of a probe through all the sinuosities of the most lacerated wounds.

ARTICLE XXX.

History of an Empyema terminating fatally.

By J. C. LETTSOM, M. D. &c.

Read OCTOBER 9, 1797.

IN the third volume of the Memoirs of the Medical Society, page 123, a case is related, the symptoms of which were so analogous to the present, that, like its prototype, I once expected would have terminated favourably; for, it may afford satisfactory information to add here, that the young gentleman whose case I allude to, has since enjoyed perfect health, and manly vigour.

The disease of the present subject commenced on the 27th of April, 1795, at the age of seven years. Previously to this time, he was a fine grown healthy boy, fond of exercise, and appeared at his age rather athletic than otherwise; he used to eat heartily, and with little mastication; which sometimes demanded evacuants, and cooling medicines;

but besides these, little attention was requisite. He was very well on the preceding day of attack, and had dined with his parents, perhaps with indulgence of appetite; however, on that evening, after being taken a little distance, as usual, to his school, he felt indisposed, and early in the morning of the 27th, there was so much oppression about the stomach, as to induce the surgeon who attended, to administer an emetic; during the operation of the emetic much indigested matter was discharged, and a considerable quantity of ropy mucus, with some streaks of blood. He was on the same day removed to London again, and in the evening I visited the patient; whom I found troubled with cough, pains of the stomach, dyspnoea, a costive body, and a high degree of fever, with vomiting of blood occasionally. A laxative medicine was immediately given, blood was taken from the arm, and cooling medicines, and fluids as nourishment were recommended.

It would be useless to enumerate the various minutiae attending this tedious case. The expectoration of blood continued for many days, although a rigid perseverance in antiphlogistic remedies and diet, with occasional

fional bleeding from the arm, and blistering the sternum, were adopted; the pulse seldom fell under 120 strokes in a minute; the difficulty of breathing was diminished, but not removed, and the cough was frequent, sometimes with expectoration of mucus, but not latterly of blood.

Towards the conclusion of May, the patient had become extremely weak, and the pulse seldom under 140 in a minute; the breathing was more difficult, and every symptom of approaching dissolution was presented. About this time an enlargement of the left side of the thorax became perceptible; it gradually increased, and at length appeared to Mr. Blicke, surgeon of Bartholomew's hospital, who now attended, to be likely to suppurate. On the 9th of June, it was so prominent, and a fluctuation of matter so obvious, that he judged it requisite to make an incision between the sixth and seventh rib into the tumour; it was succeeded by a discharge of about a pint and a half of pus.

Although the debility remained the same, the breathing was not so laborious; the pulse became slower, and a fairer prospect of recovery presented; day after day the symptoms

of danger diminished ; the purulent discharge was, however, seldom less than two large spoonfuls a day ; and sometimes, without any change in the complaints, it increased to a quarter of a pint ; this quantity, at least, was discharged about the beginning of July ; on the next day, there oozed through the opening a little mucus only ; and from this period, the discharge greatly diminished ; frequently, however, it was purulent, though rarely in any considerable quantity, and in August it was scarcely perceptible ; the child was now able to walk out. The opening was occasionally enlarged from a tendency to heal ; to prevent this, a little canula, or a dofil of lint was introduced. Air, in the act of inspiration and exspiration, constantly rushed in and out through the perforation, with more or less velocity ; it was sometimes so considerable, as to extinguish a small candle, upon coughing.

During the autumn of 1795, and the winter of 96, the health of the child was considerably reinstated ; he recovered flesh and strength ; the appetite was good, and the spirits cheerful ; but the breathing was not so free as natural, although he could lie down
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in any position; nor was the pulse so calm as in health; it was under 100, but rarely 70, and occasionally quicker.

The disease was accompanied with but a slight cough in general; on taking cold it was, however, sometimes very troublesome, though little expectoration resulted.

In the spring of 1796, the wound continued to ooze out a little purulent discharge, the pulse was rather quicker, and frequent slight feverish symptoms occurred; when these were mitigated the debility continued, or rather augmented. It was hence thought advisable, in the summer of 1796, to try sea air and tepid sea bathing, and he was removed from the vicinity of London to Ramsgate, for this purpose.

It would not, I presume, be essential here to detail the various remedies exhibited during a long and painful illness, not only under my immediate direction, but also in conjunction with Dr. James Sims and Dr. Latham, with the unremitting care of Mr. Midford. During the inflammatory state of the disease, bleeding, local and general, were adopted, with laxatives, and a general antiphlogistic treatment, with respect to diet, as well as medicine.

medicine. Afterwards alteratives, such as mercurials, and cicuta, were variously exhibited, with neutral salts and antimonials. In the state of debility the Peruvian bark, solutions of steel, and also of myrrh, were employed. External general bathing and local fomentations were recommended.

These were varied according to the symptoms of fever, of dyspnœa, debility, and other circumstances of the patient.

On the 22d of June he was first seen by Dr. Powell, then on the spot, and from his notes the following history of the progress, fatal termination of the disease, and subsequent dissection, are taken.

He was now much emaciated, and so weak, as scarcely to be able to walk across a room; his breath short, and any exertion brought on fits of coughing, from which he was generally free during the night; a constant sensation of huskiness in the throat; the face had a sort of preternatural fulness, and the lips and fingers a purple tinge, particularly before coughing; this, however, varied much in its degree, and sometimes did not exist at all. Pulse not less than 120, and very small. Tongue very tender, and covered with irregular patches of a white crust,
but

but this might partly depend on the teeth, which were rugged and bad. He lived almost entirely on asses milk. Body costive. No regular heat or perspiration like hectic, but occasional flushings, and especially in the face. The wound still discharged small quantities of sweet and healthy pus.

As considerable heat and costiveness had attended the use of small doses of opium for some days previous to this time, cicuta was substituted for it, and its dose was increased to gr. v. thrice a day, with evident advantage, as far as the cough and huskiness were concerned, till July 10, when he thought it unpleasant, and that it occasioned sickness, and therefore refused to continue it. He was not grown weaker, and his appetite was improved, for he wished for animal food, and no objection appeared to indulging him; nor did it produce any inconvenience, except that a violent fit of coughing once followed immediately upon his meal. The discharge from his side had continued unaltered, and his body had been more regular, but his pulse had never sunk below 120.

On the 24th of July there was more blackness about the lips and fingers, with more frequent

frequent recurrence of dyspnoea, diminution of appetite, and irregular alternations of heat and cold. Bark was ordered, with acids, but as they affected his bowels, they were not long continued; and it seemed that much of the present exacerbation depended upon the weather, which was stormy, and the wind blew for many days with immense force immediately upon their house, which was in an elevated situation, directly over the sea. It was therefore recommended that some less exposed situation should be tried, and he was accordingly removed from Ramsgate to a well sheltered house at Margate, and, for some days, his breath was considerably improved by the change; but, on August 14, he had a most dreadful attack of suffocation. The nurse on returning to the bed, where she had left him apparently easy, found him cold and motionless, with a deep blackness over his face and hands; from which state he began to recover on being moved quickly. I found him oppressed in his breath to a most distressing degree, with his face turgid and purple, and his pulse very quick, and so weak, as to be scarcely distinguishable. Some white wine was given at the spur of the moment, and it revived

revived him and alleviated his dyspnœa; and when another fit seemed approaching, it was again given, and prevented it in a considerable degree. Some volatile medicines were therefore ordered, and Dr. Reynolds was requested also to see him, when it was concluded to give him some saline medicine, with cicuta out of decoction of bark, and the occasional use of his volatile medicines was also permitted, and to take away some blood by cupping; and, unless relief was obtained, to take some also from the arm; and as none of his symptoms had remitted, ʒiv. were taken the next morning, the crassamentum of which coagulated very loosely, and was broken down by the slightest touch. About mid-day the return of his suffocation was more frequent, his face pale and full of anxiety, and he could only breathe when supported upright, and had frequent spasms of the muscles of the face and of the arms. The more stimulating plan was therefore again adopted. His chest was blistered, and with his volatile medicines musk also was given. Of the former he took most liberally, and seemed to be much relieved by its use; for six days he had never taken less daily than
spir.

spir. ammon. comp. spir. lav. comp. āā 3℥ss. out of cinnamon water; and the only food he took was a thick spermaceti mixture. On the night of the 20th he appeared fast approaching to his dissolution. The pulse was not perceptible, except now and then, in the smallest possible undulations. The face and extremities were pale and cold, and no medicine could be got down. By keeping a toast soaked in white wine in his mouth, by the application of blisters and gentle frictions, he again rallied, and it appeared that in 16 hours the wine given him had amounted to five pints. He felt on the morning of the 22d, tolerably well; his pulse was little above 100; his breath easier; he had dressed himself, and passed a natural copious evacuation; he took some breakfast, amused himself as usual, and was carried out. I gave him myrrh and steel in tolerable quantities, and he went on without any return of his suffocation till the afternoon of the 26th.

He had been out a good deal, and had taken a sufficient quantity of food, but after dinner he leaped suddenly from the sofa, and for some minutes exerted more strength than his mother and two nurses could overcome; after

after this his suffocations and difficulty of breathing came on as before.

Although his senses were perfect, his countenance, his difficulty of breathing, and the vast size to which his legs had swelled within a very few hours on the 28th, shewed that he could not long exist, and he died early in the morning of the 29th.

The body was examined by Mr. Gilder, surgeon, and the following appearances were observed. Externally the left side of the thorax was somewhat more depressed than the right, which proceeded chiefly from a diminution of the pectoral muscle on that side; between the sixth and seventh ribs there was a depression more strongly marked. The abdomen was much distended with air; but its whole contents were perfectly free from any appearance of disease.

In the right cavity of the thorax, and in the pericardium, there was no more than the usual quantity of fluid.

The heart seemed perfectly healthy.

The right lung was loaded with blood, and, probably, of larger relative proportion than was natural; one very small cheesy tumour was found in the lower part of it, but

to the eye, and to the touch, the whole gave a general idea of health.

Before the examination of the left lung a probe was introduced, and passed very readily from the opening between the sixth and seventh rib.

The left lung adhered very strongly to the forepart of the ribs, and on dissecting it away, a cavity came into view into which the probe had passed, and which was bounded by strong adhesions of the lung to the ribs, from the first to the seventh, to the spine for the same length, and to the diaphragm; from this cavity the matter had proceeded during his life, and some, the quantity of which an accident prevented us from measuring, was now found in it, but it was not more than a tea-cupful, and differed from the former discharge only in being more watery.

The lung itself was compressed into a very small space, and the substance of it had no communication with the abscess; it did not expand on being blown into, contained no air in its cells, and must have been totally useless. The pleura was destroyed, and there did not appear to be any natural process going on for repairing the injury.

ARTICLE

ARTICLE XXXI.

Extract of a Letter from Dr. Patterson, of Londonderry, dated July 26, 1793.

A CURIOUS species of rheumatism has prevailed in this city, this spring and summer; its peculiarity consisted in its strongly affecting the diaphragm, as pointed out by painful strictures around the thorax, following the attachments of the muscles of the midriff, producing much spasmodic dyspnea, and anxiety about the præcordia. The head was free from pain, and the stomach very little disturbed. A profuse sweating attended; thirst variable; urine natural; bowels confined. Some slight inflammation, swelling, and pain, affected the feet and ancles, which often varied, and frequently entirely disappeared. Fleeting pains, from time to time, attacked the arms, shoulders, fingers, and neck. Sleep, during the whole course of the disease, even with the help of opium, was trifling and incomplete.

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The sweatings, although profuse, did not seem to hasten the termination of the disease. The pulse was in general, especially at the beginning, remarkably slow, not exceeding 72. At the same time it was small, obscure, and frequently unequal. When the first change for the better took place, the pulse felt exactly like the pulse of a person recovering out of a long typhus-fever. After this change the pulse grew quicker than before, and mounted, for a few days, up to 94, subsiding again as the perfect recovery advanced. The disease lasted from four to six weeks.

At the beginning, large doses of Aq. ammon. acetat. with Tinct. Opii & Vin. antim. tart. were administered. Afterwards, in the middle state, Volatile Alkali and Opium had the best effect. And towards the decline, strong preparations of Cinchona, and a continuation of the opium, were most useful. Wine was more employed in the first and middle stages, than in the last. Blisters were remarkably serviceable. A bandage round the thorax was also of eminent advantage. Bleeding was not used; and evacuations by the bowels very cautiously.

Account

Account of the Weather at Londonderry,
1793.

THE winter was, in general, what is called an open one. The thermometer was not observed to descend lower than 33° .

April was dry, but cold; the prevalent wind coming from the north-east, with some days of hail, snow, and hoar frost.

Barometer	-	-	-	highest	-	-	-	-	30,38
————	-	-	-	lowest	-	-	-	-	29,12
Thermometer	-	-	-	highest	-	-	-	-	57°
————	-	-	-	lowest	-	-	-	-	36°
Hygrometer—De Luc-wettest	-	-	-	-	-	-	-	-	$62\frac{1}{2}$
—————	-	-	-	dryest	-	-	-	-	$53\frac{1}{2}$

May, the wind in general moderate, but some fresh breezes, and the prevalent point north. The weather was cold, yet chiefly dry. One day, the latter end of the month, we had two showers of hail; and two days foggy.

Barometer	-	-	-	highest	-	-	-	-	30,42
————	-	-	-	lowest	-	-	-	-	29,02
Thermometer	-	-	-	highest	-	-	-	-	62°
				Y 2					Thermometer

Thermometer	-	-	lowest	-	-	-	-	47°
Hygrometer	-	-	wettest	-	-	-	-	59°
—————	-	-	dryest	-	-	-	-	50°

June, a wet, cold month; wind, in general, moderate, and most frequent from north-west. One day we had distant thunder, accompanied by large hail.

Barometer	-	-	highest	-	-	-	-	30,30
—————	-	-	lowest	-	-	-	-	29,25
Thermometer	-	-	highest	-	-	-	-	62°
—————	-	-	lowest	-	-	-	-	50°
Hygrometer	-	-	wettest	-	-	-	-	57°
—————	-	-	dryest	-	-	-	-	52°

ARTICLE XXXII.

Case of an Ophthalmia cured by the Application of Oleum Terebinthinæ.

Read FEBRUARY 6, 1797.

St. PETERSBURGH, Nov. 11, 1796.

MY DEAR BROTHER,

THE courier not setting off so soon as expected, gives me an opportunity of informing you by what means my eyes have been cured. But I must mention what operations I had gone through; I was first blistered on my back seventeen times, behind my ears eight times, bled with leeches under my eyes, and at my arm five times, cupped, and poulticed; I also used various things in bathing my eyes, and was very frequently purged during the space of fifteen months, while the inflammation continued; and upon the upper eyelid of both my eyes there were large round swellings, which sometimes I have thought I have moved with my finger; under

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my

my right eye, there grew upon the lid a white scaly substance about the size of a pea; this would often slough off and another would succeed; my left eye was closed for several days together; the light was very painful, which obliged me to wear green silk before my eyes continually. Happily for me, I came into the room where Mrs. Hy-nam was using some spirit of turpentine; in less than three minutes I exclaimed, Good God! the pain in my eyes is gone! From this very singular effect I used the spirit in the following manner; I poured some in a saucer, and held it under my eyes; the evaporation of the spirit made my eyes smart and look more red than usual. I continued this manner of using it three days together; on the evening of the third day I wetted a rag with the spirit, and very lightly touched both my eyelids with it; it soon occasioned a violent inflammation and swelling, so much so, that I was obliged to wash the spirit off with milk, yet the inflammation continued all the following day, and a considerable degree of itching succeeded; my eyes the next day were better; for two days after I used the evaporation only, I then resolved again to wet my eye-

eye-lids with the spirit, and to bear it all night, however great the smart should be, and it was pretty much indeed, I got no sleep; in the morning my eyes were swollen and very red; my friends blamed me much, however, I consoled myself with the hopes I should receive benefit from it, this second time of bathing or wetting my eye-lids with the spirit. I had, after the inflammation was less, a greater degree of itching than the first time, and it continued longer; but when they both ceased, to my inexpressible joy, I found my eyes much better; I continued to use the evaporation, and once more the bathing, when I found my eyes as well as they have been for some years past; the swelling on both eye-lids is quite gone, and also that scaly substance I mentioned. In the use of the spirit there should be confidence and resolution.

Thirteen days effected a cure; fifteen months I was tortured both in body and mind without the least appearance of amendment. You will use this as you please.

I am, dear Brother,

Yours, most affectionately,

ROB. HYNAM.

*Mr. Hynam, Surgeon,
Ratcliff Highway.*

ARTICLE

ARTICLE XXXIII.

An Obstruction of the Œsophagus removed by a Tobacco Glyster, on the third Day after the Accident.

BY MR. BLAIR, SURGEON of the LOCK HOSPITAL.

Read APRIL 30, 1798.

A MAN, who had swallowed a morsel of beef more than half way down the œsophagus, ran immediately to a neighbouring apothecary for relief. After using the probang without any success, this gentleman administered an emetic, in hopes of making the patient reject the portion of meat during the effort of vomiting: but, as he was unable to swallow any liquid, no good effect followed the exhibition of the draught.

In this deplorable state the man remained until the third day; and then applied to me, at the Finsbury dispensary, for assistance. I thought it proper to try the probang; but
used

used it with no better success than the apothecary had done : for every time I passed this instrument, the patient was thrown into a most violent state of spasm, and seemed to be in danger of immediate suffocation. The probang was urged downwards as forcibly as I dared to venture, without risking an injury and rupture of the œsophagus : being reduced to this dilemma, and the man being in danger of perishing, I prescribed him an infusion of a dram of tobacco to be injected *per anum* as soon as possible, with the view of exciting sickness and vomiting. The experiment succeeded : the patient brought up the piece of meat, and recovered, in a few days, from the inflammatory symptoms occasioned by the accident, or by the means used to relieve him.

ARTICLE XXXIV.

Case of a Child born with Variolous Pustules.

BY MATTHEW FLINDERS, SURGEON,
DONINGTON, LINCOLNSHIRE.

Read OCTOBER 30, 1797.

MRS. STIMSON, of Quadring, Lincolnshire, about her 30th year, of a robust and rather plethoric habit, in the last month of her fourth pregnancy, was bled on May 27, 1797; a few days after she was taken with fever, pain in the back and head, and the usual symptoms consequent on variolous infection, but that cause was not suspected at the time, she supposed labour might probably be coming on. An anodyne, in rather a full dose, was given, with the view of abating false, or bringing on true pains; it produced no relief, the symptoms continued about three days, when a fine distinct variolous eruption made its appearance. She had about 50 pustules in the face, and it may be about

300 in the whole; the disorder passed through its regular stages, without any disagreeable symptoms; fever and pain went off; she had a slight sore throat, for which I gave her simple oxymel, and a few mild opening medicines, when costiveness required; she had an anodyne for a few nights towards the state of the disease, to obviate irritation. The pustules made their appearance on June the 3d, and obtained their perfect maturation on the 10th and 11th. On Sunday, June 18th, she was taken in labour.—I attended; she had a good natural labour, of not more than three hours continuance, being much quicker than any of her former labours; the child was a fine boy, to all appearance at its full period, with variolous pustules regularly spread over the whole body; there might be 30 or 40 in the face, the body and limbs in the same proportion, much in the same manner as the mother, a fine distinct pock; maturation had commenced in some of them, to my apprehension they might want about two days of their full state. Considering the very different temperature of the infant's late and present state, I desired the nurse to keep it

6 rather

rather warm, as from the moderate eruption, it did not appear to me that heat, in moderation, would be detrimental. The child continued well the first day, cried strongly, took some pap; the next morning, June 19th, took the mother's breast plentifully; it became ill soon after, breathed with difficulty, the pock flatted, and the infant died at night, which I cannot but regret, as a living instance of a child coming into existence, with variolous pustules, would have added to curious similar cases already on record. I have simply stated facts, and pretend not to assign the cause why the foetus in utero, sometimes takes the variolous infection, and sometimes escapes it, though in each case it be equally exposed to it.

ARTICLE XXXV.

On the Fever of Demerary.

By ——— BEANE, SURGEON IN THE ARMY.

Read MAY 29, 1797.

Review of Soil, Seasons, &c.

THE colony of Demarary is situated about seven degrees to the northward of the equator, and fifty eight to the westward of London.

Like Holland, in Europe, it is a low marshy country, the sea being kept out by means of dams; without this precaution it would be constantly under water, as at spring-tides the surface of the water is two feet above that of the land. Each dwelling-house is surrounded, and each plantation cut through, by large dams, or smaller drains, which are full of water at high tide, but
have

have little or none in them at low tide, then leaving a large surface of mud exposed.

The plantations extend in slips from the sea coast and shore of the river about one mile and a quarter; from the bottom of them the land is entirely covered by a thick impenetrable wood, called by the inhabitants the *Bush*; this is constantly under water. The soil is clay, rendered mud by a few hours rain. No gravel, nor sand for nearly an hundred miles up the river, you there first meet with sand hills.

Seasons.

The seasons differ from those of the islands. From the middle of April, to the latter part of July, is the rainy season; the rains fall very heavily at this period, and the water, collected in tubs or cisterns, furnishes them with a supply during the dry season. August to September is the dry season; about Christmas they have five or six weeks again of rains (called by the inhabitants the *short rains*); these being terminated, they have a second dry season to the middle of April.

Seasons

Season of Sickness with the Inhabitants.

The season of sickness with the inhabitants is principally in the months of August and September. This themselves attribute to the termination of the rains, and the increased influence of the sun; which, arriving from the northward, becomes directly vertical in the beginning of September. The fever with them is intermittent in all its types, or remittent. In theory it would appear that the exciting cause of the disease resident in the mud, was in the rainy season so much diluted as to possess much less force than it does after the commencement of the dry season; the sun then exerting its influence, raises it in a more concentrated force, making it more active in attacking, and more violent in its effects. After a certain time the heat gives a dry crust to the surface, keeping it pent up. Disease after this becomes less frequent.

Thus it was with the inhabitants; but the subjects from whom the following remarks were drawn, were soldiers recently arrived from Europe.

The

The Fever of May.

In the months of May, June, and July, a fever of a mildly inflammatory kind prevailed, which was in several instances succeeded by a flux; but the greatest number of the patients soon recovered, in the use of the means commonly employed on these occasions.

Yellow Fever, and Fever with extreme Restlessness.

A few cases, however, occurred with the most violent, and, I may say, with the most malignant symptoms, both with and without yellowness, particularly extreme restlessness; in some, from the instant of the attack; in others, it went on like the mild fever, in the first paroxysm and remission, when a slight yellowness suddenly began to make its appearance in the eyes, face, and neck, extending gradually over the whole body; some died without any remarkable symptoms, except the yellowness, apparently sinking from excessive debility; very great irritability of
the

the stomach attended some, but (if I recollect right) in others it was absent even to the hour of their death. In those who were upon their first attack seized with the extreme restlessness, it attended them till their death : this was a curious and a very dangerous symptom, and in some who died with it was the only alarming one.

The Subjects, &c.

The subjects of fever with this fatal symptom, and of fever with yellowness, and other malignant symptoms, either with or without the restlessness, were, for the most part, men of gross, fat, and full habits, and particularly addicted to the drinking of spirituous liquors.

Typhus Fever.

A few solitary instances occurred of typhus fever ; the subjects of it were lads of a slender delicate make ; it could not by any means be attributed to infection, nor did it extend itself.

Bleeding from the Nose.

Nasal hemorrhagy was a common symptom in the advanced stage of the disease, and a very unpleasant one; but afterwards, when bleeding was more generally used, this symptom was rarely observed.

Latter part of July, malignancy of Fever highly increased; Yellow Fever.

I come now to that period in which the disease shewed itself in the most malignant form. After the middle of July, the rains had subsided considerably, and the sun began to exert its influence in exhaling the more aqueous parts from the mud, leaving it in a state more adapted to the production of disease. The remissions were now extremely obscure, they appeared in some measure to depend upon the force of the acting cause, or the predisposition of the patient; hence, while the rain fell, the *vapour* which arose from the mud was so much diluted, that it produced only a mild remitting fever; and, at this time when more concentrated, in many patients whose

whose constitutions it would appear were less disposed to receive the diseased actions, it could only form a remitting fever of the former mild nature, or even an intermittent.

The Cause of the Disease resident in the Mud.

Several circumstances tended to prove that a something rising from the mud was the cause of the disease: the nature of the country; sentinels being taken ill at their posts, or suddenly attacked on walking past a particularly marshy spot, over which the wind blew.

Symptoms of Attack.

The particular changes in the symptoms were, a strongly marked determination to the head, upon the first attack, the disease commencing often with violent and sudden pain above the eyebrows, like a shock of electricity; flushed face, redness of the eyes, vertiginous, or comatose affection of the head; a small obscure pulse, often slow, joined to coma in some; pain of the limbs and across the back.

Bleeding and Purging.

In this state, bleeding within twenty-four hours of the first attack, or even after that time, relieved the head-ach immediately, and followed up by an active purge, put a stop to the further progress of the disease.

Great Determination to the Head.

The violence and suddenness of the head-ach was peculiar ; it seemed as if the coolness of the air during the wet season, from the constant evaporation, had determined the arterial action from the head and surface to the bowels ; but after the commencement of the dry season, the extreme heat of a vertical sun, unallayed by clouds, nor counteracted by evaporation, determined it strongly to the head.

Pain at Stomach, and lower part of the Belly.

To the symptoms before mentioned, in some was added an oppressive pain in the region of the stomach, and vomiting of a dark fluid like water poured upon old coffee grounds ;

grounds ; and towards the latter part of August, many patients complained of pain in the lower part of the belly also ; in one similar case, all the mesenteric glands were remarkably enlarged, and a line of inflammation ran along the junction of the mesentery to the small intestines.

Continuation of Symptoms.—Fatal Symptoms.

After a time succeeded burning heat of skin, and great irritability of stomach ; in some there was a remission of these symptoms, but the irritability of stomach remained, gradually going off in those who did well, but continuing and increasing in those whose cases terminated unfavourably ; yellowness gradually coming on, beginning with the eyes, and extending itself to the face, neck, and the rest of the body. In some patients the yellowness and excessive irritability of stomach, were the only remarkable symptoms to the time of their death ; but in most was added delirium, generally of the low, but, in a few cases, of the active and violent kind, with a great degree of morbid strength ; and towards the last hours of life, they lay in a

stupid comatose kind of way, with a very anxious appearance of the eyes, sleeping, sighing, with very deep and laborious breathing, spasmodic affections, as spasmus cynicus, partial spasms of the muscles of the extremities, quivering of the lips, subsultus tendinum, lividness and coldness of the extremities, a sudden glow of warmth often upon the skin, universal convulsions, loss of pulse, and death.

Intermitting Pulse.

Intermitting pulse in many appeared early in the disease, and it seemed to me most commonly to mark local affection. In some the yellowness did not appear till after death; the natural colour of the skin during life appeared to have concealed its existence previously to death.

Tongue.

Tongue white, moist on the first attack; edges, center, or tip, clean, white dry scurf seldom going through the regular progress of typhus, of the gradual inclinations of white to buff, yellow, brown, and black, but seemed to lose the intermediate changes. In some it
was

was covered with a moist and bright saffron coloured mucus, of the consistence of honey; in others, with a brown tar-like covering. One patient after becoming yellow, and being delirious for a considerable time, experienced a violent attack of most acute pain in his right side, ("as if his side were torn out,") with spitting of blood. After his death, universal inflammation of the right pleura was discovered, with a pint of deep yellow pus.

Appearance of the Blood in the latter Stage.

Blood drawn in the latter stage, exhibited a greenish hue on the surface; the serum was tinged strongly yellow, staining the hands with that colour; the coagulable lymph separated in buff on the surface.

Treatment.

The cure in these cases was attempted by bleeding and purging on the first attack; as antimonials were rejected by the stomach, spir. minder. with camphor julep, were employed. Bark was rejected, and when retained upon the stomach its use was often succeeded by an increase of yellowness upon the skin. It is

of principal importance to observe, that in yellowness and a bad state of the disease, the patient certainly dies, unless salivation comes on from the effect of mercury.

Salivation from Mercury.

In the month of August the disease was so fatal, that to all the patients mercury was given. When salivation came on, they were perfectly safe; I never knew a patient under salivation die. The doses were gr. iv. vel v.—ad ʒj. 3^{ia} quâque horâ; of calomel in a bolus, according to the urgency of the case; I have known a patient spitting within twenty-four hours. In some patients it did not produce salivation, but hemorrhagy from the mouth; it often would keep wavering about the mouth, shewing one day strong signs of an approaching salivation, which would be gone the following day; in such a state, if the patient ultimately died, he lived very many days longer than in the usual course of the disease.

Diarrhœa from Calomel.

Sometimes the calomel was combined with opium, sometimes the opium was given occasionally,

sionally, as diarrhœa required ; but if it did produce purging, it was under the command of opium, unless allowed to go to very great excess. In general it produced no purging : I remember one case in which there was previously diarrhœa, and another, in which there was an urgent diarrhœa, and also a vomiting ; each of the patients took large doses of calomel ; these symptoms gave way during its exhibition. In a lad a remaining troublesome pain at the scrobiculus cordis, was gradually relieved after the commencement of the salivation.

Vomiting,

Vomiting—saline remedies simply ; et in actû effervescent ; Opium vel Tinct. Opii per se ; Idem cum Æther.

Consequence of the Action of Mercury.

Signs and effects of the action of mercury ; fulness and slowness of pulse, soft and thrilling ; sensation of roughness in the mouth ; teeth sore ; stiffness of the jaws and teeth ; mouth bleeding.

Blood

Blood drawn from patients under the influence of mercury, buffed, cupped and contracted.

Pain at the scrobiculus cordis, was gradually relieved after the commencement of the salivation.

Extreme care should be taken not to let the diarrhoea from mercury go too far, otherwise the patient becomes so far sunk, that he is lost.

Convalescents, who relapse, are liable to a fatal purging in using mercury.

Astringents for Salivation.

The salivation was most speedily subdued by opiates blended with astringents: for this purpose solutions of alum, or of cuprum vitriolat. cum opio, were employed as lotions for the mouth,

APPEARANCES ON DISSECTION.

Head.

Patches of inflammation were found on the pia mater, under the temporal muscle.

Water was collected between the pia mater and the tunica arachnoïdes, and in the lateral ventricles.

Points

Points of bleeding vessels occurred in the medullary substance of the brain.

Chest.—Heart.

Inflammation of the chest appeared in every possible way, even to the collection of matter; an effusion of water: the absorbents of the heart were very apparent in two cases.

Stomach.

The stomach was found contracted, and of a dark purple colour, sometimes in patches, from extravasation, or inflammation verging towards gangrene.

Liver.

The liver was yellow and very pale.

Gall Bladder.

Gall bladder, contained green concentrated bile, but was not turgid with it; the portion of the liver, in contact with the gall bladder, was of a dark leaden colour.

Mesenteric

Mesenteric Glands.

Enlargement of the mesenteric glands, with a line of inflammation, extending along the junction of the mesentery to the intestines, in a few cases.

Yellow Colour.

Deep yellow pervading every part, the integuments, cellular and adipose membrane, and even the periosteum of the bones.

ARTICLE XXXVI.

History of an Aneurism of the Aorta.

BY WM. HUNTER, Esq. SURGEON, in the EAST INDIES.

IN A LETTER TO

J. C. LETTSOM, M. and LL. D.

Read APRIL 2, 1798.

THE disease, which constitutes the subject of the following narrative, is one of those, for the knowledge of which we are indebted to the researches of modern anatomists. For, although some passages have been produced, from the writings of ancient physicians, which seemed to imply an acquaintance with it; the learned *Morgagni* has proved, that all referred to dilatations of the external arteries; and that the first aortal aneurism, ascertained by dissection, was that described by *Vesalius*, in the year 1557. When we consider at the same time, that in
the

the greatest number of cases, hitherto recorded, the physician was not consulted, till at an advanced stage of the disease; we cannot be surprised, that its history, in the early periods, is still obscure; and that we are, as yet, unacquainted with any sign, that can be justly called pathognomonic. The usefulness of such knowledge, if it can be attained, is evident. For, though in its advanced periods, this be one of the unfortunate cases, in which the aid of medicine is wholly unavailing; yet, in the incipient state, measures may certainly be taken, whereby life will be prolonged: nay, instances are not wanting, wherein, after symptoms had come on, that indicated the actual existence of aneurism, a cure was accomplished*. Whereas, if the real nature of the disease be unknown, we may be led, by a flattering alleviation of symptoms, to a practice which will increase the original cause, and hasten the fatal catastrophe. But this knowledge can be attained, only by recording and comparing the histories of cases, in which the symptoms have been observed at an early period. I hope no farther apo-

* Morgagni de causis et sed. Ep. xvii. 30.

logy is necessary for offering the following narrative to public notice.

Captain Augustus Keppel Dickson, aged about 36, in general healthy, but of a delicate and irritable habit, when he arrived at *Kanbpoor*, in April 1787, was affected with pains in his breast and shoulders, which returned at intervals, but did not interrupt his respiration, were not accompanied with cough, nor aggravated by any particular posture of his body. The pulse was natural. He had had the complaint, in this form, for some months previous to his arrival. I began the treatment with antimonial medicines; but finding that he was spontaneously prone to sweat profusely, and suspecting, from the general habit, that the disease, in a great measure, depended on atony and irritability, I soon laid them aside, and had recourse to a decoction of bark, with elixir of vitriol. This checked the propensity to sweat, and rendered the attacks of pain less frequent. But, not having completely succeeded, I thought of trying electricity, by taking sparks from the parts affected. At the second time of using the machine, the cylinder was cracked, and as another could not be procured, we

3 lost

lost the opportunity of giving this remedy a trial.

In a consultation with Mr. *Laird*, who was then Surgeon Major at the station, it was now agreed on to try *mercury*, which Capt. *Dickson* said, he had taken with advantage, in a similar complaint, on the coast of *Coromandel*. Accordingly he was put on a course of the blue pills. They had scarcely begun to affect his mouth, when the pains were removed. He was advised to continue the use of them, for some time; but, being free from complaint, neglected it. The pains returned in May; but yielded again on his having recourse to mercury, in the same form as before.

From this time he continued in good health till October, when he underwent great fatigue and anxiety, in preparing a newly-raised battalion for being reviewed by the commander in chief. On the day of the review, he got his feet wet, in which state they continued for a considerable time. In the afternoon he sent for me. I found him complaining of severe pain in the left *hypochondrium*, which obliged him to lie on the right side. His breathing was, in some degree,

gree, affected, and his pulse rather hard. Eight ounces of blood were taken away, he was ordered a cooling regimen, and to take a dose of cathartic salt in the morning. Next day the blood appeared fizy, and the operation had given some relief to the pain. It was repeated, to the same extent as before, and a blister was applied to the seat of the pain. This moved it farther backward, but did not carry it off. Warm fomentations were applied, which gave immediate, and (for a time) complete relief. The pulse was now perfectly natural, soft, and not exceeding 70, sometimes only 60 strokes in a minute, when he remained at rest; but it had that readiness to be affected by every little agitation, bodily or mental, which accompanies nervous affections. The mind seemed to partake of the irritability of the body so far, that considerable agitation was produced by circumstances which would not have had that effect when he was in health. The belly was regular, but he was troubled with flatulence. The appetite was good. The urine high-coloured, without any sediment. There was no preternatural hardness in the seat of the pain, no tumour, or discoloration.

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loration. From these circumstances, and his being easy when he lay on the opposite side, I concluded that it did not proceed from an affection of any of the viscera ; but rather of the muscular, or the membranous parts, constituting the parietes of the abdomen, which were relaxed by the former posture, and brought into a state of tension by the latter. The antiphlogistic regimen was continued, but no further evacuations were judged necessary, except keeping the belly open, when requisite, by glisters. In the mean time various topical applications were made, as a foetid plaster, frictions with balsamum sapo-naceum, linimentum volatile, &c. with temporary relief. Musk was given in the quantity of half a drachm daily. This produced a copious sediment in the urine, and gave some, but by no means a complete, relief to the pain.

A great difficulty we laboured under at this time was, that the least cold air admitted increased the pain. Thus it was impossible to persuade the patient to keep himself in a cool temperature ; and the warmth of the chamber in which he shut himself up, increased his weakness and irritability.

tability. At last we advised him to go into the country; which would have this one good effect, that it was hardly possible, in the month of November, to make either a tent, or a boat, so warm, as to be hurtful. The coldness of the nights he complained of a good deal, and said it aggravated the pains; but he became every day stronger, and in the day-time was pretty easy.

We now had recourse again to mercury. *Calomel* was prescribed, with a small proportion of *tartar emetic*. The first or second dose gave him instant relief; so sudden indeed, that I was not altogether without suspicion, that it proceeded from the confidence that the patient himself reposed in the medicine; for he seemed, at this time, to be a good deal under the influence of imagination. At any rate, it was evident, that the good effect of the mercury was to be accounted for by an antispasmodic power, or the diffusive stimulus which it communicated to the system, and not by the removal of any permanent obstruction, which would have required a longer time. Hence much advantage was not to be expected from continuing its use; and, for the prevention of a relapse,

the patient was ordered to use the cold bath, with moderate exercise, and a nourishing diet.

From this time he continued well till April 1788, when the pain returned. It was removed by a blister, and the repetition of mercury.

It did not return till October. The pain began before day-break in the morning, and went off as the day advanced. Having gone off and returned in this manner, for three or four days, it became more constant. A strengthening plaster was applied to the seat of it, with partial relief. Being now thoroughly convinced that the complaint was of a spasmodic nature, and having seen the good effect of a change of air and situation, I immediately directed him to move into tents, and make short marches, of six or seven miles a day. At the same time I put him upon the following course of medicine, which a practitioner, who had attended him in *Calcutta* for a similar complaint, told me had produced an almost instantaneous cure.

R Camphor. opt. ʒi.

Calomel. ppʳ. ʒss.

Pil. Saponac. ʒij. M.

Ft Massa, in Pil. xxx. dividenda.

Capt. Pilul. iij. omni nocte h. s.

℞ Pulv. Cort. Peruv. rub. ℥ij.

Coque ex Aquæ pur. ℔ iij. ad ℔ ifs,
et sub finem coctionis, injice.

Rad. Valerian. Sylv. ℥ifs. Cola.

Cap^t. ℥ij. quater vel quinquies indies.

While he was under this course he was seized with a slight fever, during which the pain was aggravated, and attended, at times, with a throbbing, or pulsation, in the affected part, which could be distinctly felt by applying the hand upon it. By a dose or two of physic the fever was removed, and the pain was no longer attended with pulsation. The course of medicine above described was resumed; but the mercury did not, at this time, produce the sudden good effect which it formerly had: though persisted in till the mouth was slightly affected, the pain was not relieved. A blister was applied to the part, the mercury was left off, but the bark and valerian continued. The pain gradually gave way, and the entire removal of it, for this time, was accomplished, rather by gentle exercise, increased by degrees, with change of
A a 3 situation,

situation, and amusement, than by medicine. By the end of December he was perfectly well.

He continued free from pain till about the beginning of July, when the weather was very damp, and a great quantity of rain fell. At the same time his spirits were severely affected by the death of a friend, to whom, as his patron for many years, he was attached by the strongest ties of gratitude and affection. The pain now began to be troublesome in the night and morning: it was easier, but did not entirely go off, in the day. It was seated on the false ribs of the left side, extending from the spine almost to the sternum, and shifting frequently from the one situation to the other. Volatile liniment and dry cupping were applied to the part, with partial relief. About the ninth, he went into the country, and was some days perfectly well, on others, the pain was pretty severe. On the 21st I saw him. He had generally suffered, in the night, considerable pain, which sometimes deprived him of rest. In the day-time it was easier, and often he was entirely free from it. In other respects he was in perfect health.

health. He was able to walk or ride, and took pleasure in these exercises when not prevented by pain. His flesh was not wasted; his complexion, though a little pale, was clear, and indicated nothing of disease. I gave him the decoction of bark and valerian, which before had appeared to have a good effect; and it was, after two or three days, exchanged for the bark in substance, of which he took half a drachm three times a day.

August 1st, He was free from complaint. On the second, in the morning, he called at my house, and said the pain had been severe in the night, but was then easier. I proposed, should it return the next night, to apply a blister to the part. He was easy in the forenoon, and dined at home with a small party. During the time of dinner he complained of pain, which now and then was aggravated by twitches, so as to make him start up; and at this time he mentioned to some of the gentlemen present a sense of pulsation in the part affected. He drank three or four glasses of wine at dinner. In the evening the pain increased, but not so much as to make him apply for assistance. He rubbed the volatile liniment, as usual, ap-

plied a wine-glass to the ribs, by way of cupping, and about nine o'clock went to sleep. At midnight he was heard to make a noise, which some of those present compared to the barking of a dog: this was repeated four or five times. A light was brought as soon as possible, but before it came he was dead. I was sent for on the first alarm, and on my arrival found him without the least token of life.

In the morning, having obtained leave to open the body, I was assisted by Mr. *Munro*, the head surgeon of the station. The skin on the left side, towards the spine, was livid. On cutting through the common teguments of the abdomen we found the adipose membrane well furnished with fat: the abdominal muscles were in a healthy state: the omentum reached as low as the pubes, and had the usual proportion of fat. The stomach and intestines, liver, spleen, pancreas, and kidneys, were perfectly sound. The gall-bladder contained a very small quantity of light yellow bile. On opening the thorax we found its left cavity filled with coagulated blood. We removed 36 ounces of serum, and 84 of crassamentum, which was florid, and

and of a firm consistence. There was no blood in the right cavity of the breast. The pericardium contained only the usual quantity of fluid, and the heart was to all appearance sound. The lungs, though paler than usual, had no marks of disease. But, on drawing them to one side, so as to bring the *aorta* into view, we discovered a dilatation of its descending trunk, which began about three or four inches below the arch. This aneurismal sac was three inches and an half in length, in diameter one and three quarters. Its surface was uneven, being protruded into several little pouches. It had burst at the lower and fore-part by a large opening: on the right side of the tumour the distention had taken place in such an irregular manner, that a reduplication of the coats was formed within; and externally, the two surfaces, which were applied to one another, cohered.

The patient never told me of any cause to which his complaint could be ascribed; but I am informed, that a little before his death he mentioned to one or two gentlemen, a fall which he had from his horse about ten years before;

before; saying that it occasioned, at the time, severe pain in his back, and confined him to his bed; and that, ever since, upon any occasion of catching cold, he was subject to flying pains in his breast, side, and back *.

The questions which naturally offer themselves to our consideration on the foregoing history are these:

1. Supposing the account above delivered of the fall, and its immediate consequences, to be accurate, was it the cause of the aneurism?

2. Were the symptoms produced by the aneurism, and in what manner?

3. What appears to have been the effect of the treatment which was pursued? and what change ought to have been made in it had the cause of the disease been known?

4. Are there any symptoms, or combinations of symptoms, in this case, which can assist us in detecting a similar morbid cause?

* An officer of rank, who was at the station with Captain Dickson when this accident happened, has lately informed me, that he remembers the circumstance; that the hurt occasioned by the fall was severe, and caused a long confinement.

I. The

I. The concussion which attended the fall seems to be an adequate cause of injury to the coats of the artery, which may have gradually yielded to the impulse of the blood, till they could resist no longer. This conclusion derives probability from what Morgagni tells us, that the first internal aneurism discovered by dissection, had taken its origin from the leap and concussion of a fierce and unruly horse. His observation, that the disease is most frequent in guides, postboys, and others who sit almost continually on horseback *, though not so immediately conclusive, is yet, in some degree, applicable. For the effect which in them results from long continued and frequent concussions, may reasonably be expected from those which accidentally occur with greater violence.

II. At the beginning of the attack, in October 1787, the pain was attended with some inflammatory symptoms; but at all other times it was judged, by almost every medical gentleman who saw the patient, to be purely

* It is a remark in Hindostan, that Camel-Hircarrahs are in general short-lived. It might be an object worthy of inquiry, to discover whether internal aneurisms are a frequent cause of death in that class of people.

of the nervous kind. This opinion was founded on the following reasons.

1. The naturally irritable habit of the patient.

2. The pulse, in general, rather slower than in health, though frequently varying its quickness and strength, and easily affected by bodily exertion, or mental agitation.

3. The state of the mind more variable and fanciful than in health.

4. The pain being brought on, or aggravated by mental affections; its frequently shifting its situation, and appearing to be, in some measure, connected with the flatulent affection of the stomach.

5. The success of tonic remedies, a generous diet, exercise, and amusement, in removing it.

6. The want of symptoms, indicating affection of the viscera.

7. Even in October 1788, when the febrile attack was attended with a sensible pulsation, that pulsation was temporary, and returned at irregular intervals. And we know that a pulsation, synchronous with the arterial stroke, more constant, and of longer continuance than this, has been felt in cases where,

where, the patient dying of another disease, no aneurism could be found on dissection. Several instances of this kind occur in Morgagni. And I saw a patient, nine years ago, who had in the umbilical region, so strong, regular, and constant a pulsation, as appeared hardly reconcilable to any other supposition, than that of an aneurism of the *aorta descendens*, or some of its larger abdominal branches. Yet this person is now alive; and, as I am informed by a medical gentleman who formerly attended, and has lately examined him, is in good health, with no symptom of his former complaint, unless now and then a little uneasiness, and fulness in the parts.

Yet, the existence of an aneurism being discovered, it appears adequate to the production of all the phænomena. Thus in the Medical Communications, we find “a pain
“ of the spasmodic kind, at first confined to
“ the back, but afterwards spreading to the
“ left side,” mentioned among the symptoms which attended a case of aneurism. In the Marquis Palucci’s case, related by Morgagni, the disease, in the beginning, “lay under the deceitful mask of periodical
“ pains,

“ pains, that wandered through the left
“ shoulder, and the adjacent parts.” It was
attended with suffocating paroxysms. Both
these, and the wandering pains, were alle-
viated by bathing the hands and arms in
warm water ; for the extraordinary efficacy
of which practice in appeasing certain spas-
modic paroxysms, see Mr. Whytt’s Treatise
on Nervous Diseases.

In *Ferrarini*’s case we find “ a sense,” as
he called it, “ of a kind of air, ascending
“ from the hypochondria to the fauces;
“ which circumstance, together with the
“ sudden invasion and departure of the fit,
“ and the relief that he frequently found
“ from the eruption of flatus, and his me-
“ lancholic temperament, induced not only
“ the sick physician himself, but most others,
“ to think the paroxysms were to be ac-
“ counted for almost, as in hysterical wo-
“ men, only from irritated and convulsed
“ nerves.”

More instances would be superfluous of
aneurism occasioning symptoms that resem-
bled nervous, or spasmodic affection. In the
case of our patient, I conceive, that a pain-
ful sensation was produced in the coats of
the

the artery by the preternatural distention they underwent; and that this painful sensation was, by sympathy, communicated to the continuous surface of the pleura, so as to be sometimes referred to one part, and sometimes to another, of that surface.

III. The latent cause thus disclosed, evinced, to my infinite regret, that the plan which was pursued was in several respects improper. A much stricter regulation of diet, perhaps even the greatest severity of abstinence, ought to have been enjoined. The bare consideration of the morbid cause naturally leads to this practice; which was accordingly enjoined by the father of physic: and we have, in the work of the illustrious author whom I have so often had occasion to quote, two instances of cures accomplished by it. In one of these the regimen was carried to such a degree of severity, that the patient could, by reason of weakness, scarcely raise his hand from the bed. A patient must be fully impressed with a conviction of his danger before he will consent to such treatment: but the advantage of it was fully demonstrated by the event; for the pulsation, and other signs of incipient aneurism, went off under this course;

course ; after which, the physician, Valsalva, increased the quantity of aliment by degrees, every day, till the strength was restored.

With respect to *exercise*, the rule proper to be observed, seems to me less obvious. When abstinence is carried so far as above described, this is evidently out of the question. But, if such severity is judged unnecessary, or the patient cannot be brought to submit to it, it may be deserving of consideration, that although when violent, exercise would increase the distention, by augmenting the impetus of circulation ; yet, if moderate enough to avoid this effect, it would diminish the fulness of the vessels, and thus assist the cure. On this principle, when the disease is in the incipient state, I should be inclined to recommend some kind of gestation, carefully avoiding all sudden exertions.

The effect of *tonics* seems also very doubtful. They must increase the rigidity of the arterial coats ; and as their operation will probably be greater on the sound, than the diseased parts, it is reasonable to suppose, that they will increase the inequality between the strength of these parts, and consequently the disease. Those which have a tendency to
quicken

quicken the circulation, as steel are undoubtedly improper. But the cold bath, which tends to diminish the impetus of the blood, and the fulness of the vessels, seems to admit of a question. It ought, unquestionably, to be used in such a manner as to avoid a sudden shock.

Yet the treatment which was followed, repeatedly removed the troublesome symptoms, and to all appearance accomplished a cure. How is this to be accounted for? The practices employed had all a tendency to increase the tone of the system; consequently, to diminish irritability. Hence, I suppose, that the susceptibility of a painful impression in the affected parts was lessened, and thus the pain removed, though the exciting cause might remain, or even receive an augmentation from some parts of the practice. On the other hand, when the irritability, which was here the predisposing cause, was increased by too much fatigue, by anxiety of mind, or a moist and relaxing state of the atmosphere; the pain returned, and its seat was, no doubt, determined by some minute circumstances in the state of different parts of the pleura.

So much for the general plan of cure. Of the remedies applicable to the obviating of urgent symptoms, *venesection* is undoubtedly that to which a knowledge of the real morbid cause would most directly lead the practitioner. It was used in the beginning with good effect; but afterwards laid aside on consideration of the circumstances, which indicated a nervous disease. Nor would a knowledge of the true cause have justified its frequent repetition; as that has a tendency to induce the very plethoric state, to which it affords occasional relief. But I have little doubt, that if it had been employed when the aggravation of symptoms took place, on the day preceding the patient's death, it might have prolonged his existence.

IV. The importance of being able to distinguish an internal aneurism from those nervous affections which it often so nearly resembles, having been clearly evinced by the preceding narrative, it would have given me much satisfaction to point out, in the foregoing case, sufficient grounds for a just diagnosis. But, after attentively considering, with this view, all the symptoms, I must confess my inability to discover any marks unequivocal

vocal enough for this purpose. These, I apprehend, must be derived from a comparison of numerous cases, and I can only offer this as a small contribution towards the history of the disease; leading in a case where similar symptoms may occur, to a suspicion of the same cause, though not affording any sufficient means of ascertaining its existence.

W. HUNTER.

ARTICLE XXXVII.

*Pathological Remarks upon various Kinds of
Alienation of Mind.*

By JAMES SIMS, M. D. PRES. M. S. L. F. A.
S. and R. I. AC. HON. F. N. Y. and MASS. MED.
Soc. V. P. PHILANTH. Soc. &c.

Read JANUARY 28, 1799.

HAVING lately seen an account of a trial for a capital offence, in which the judge, I am convinced, solely from ignorance of the subject, gave a most erroneous opinion affecting the life of the supposed culprit, I thought it not improper to lay before you a few thoughts on the subject. In the account I have mentioned it is stated to have been said, that no homicide could be deemed insane who knew that it was a man, and not a dog or a cat, that he killed. Now, on the contrary, I believe, I may assert, that no madman ever mistook the appearance of a dog or a cat for that of a man. Such things, it is true, occur in plays and works of fancy, but, I am convinced, never in real life. To guard against such mistakes for the future, as far at least as in my power, I shall endeavour not only to define

define the principal species of insanity, but also to give such a description of them as shall make them understood, even although the definition should not be sufficiently correct or intelligible; an accurate description of a disorder, like a good picture, making such an impression on the mind, as to leave no doubt of the resemblance whensoever we meet with the original.

I have a farther reason for writing on this subject, which is, that I think there is a species of disease frequently to be seen in this country, which, both on account of its important consequences, and its being perhaps sometimes mistaken, seems to merit a more particular attention than what has been yet paid to it. This may be called delirium, either succeeding or followed by fever. This sufficiently distinguishes it from delirium in the advanced stages of fever, of whatsoever kind, and also from madness; a distinction of more importance, as there is reason to believe that they have been frequently confounded.

To give general definitions, which shall comprehend a variety of matters, is more difficult than is commonly conceived, and in no instance, perhaps, more so than in the present case. Every one thinks that he can

distinguish insanity ; but has it yet been properly defined ? A definition to be good should be clear, and easily comprehended by all who are qualified to judge of the subject ; and it may be asserted, that nine in ten cases of insanity are manifest to, and therefore understood by, most men. To bring in, then, metaphysical terms and niceties in defining it, is only to puzzle what must have been before tolerably perspicuous. Were I to hazard a definition, I should call it, the thinking, and therefore speaking and acting differently from the bulk of mankind, where that difference does not arise from superior knowledge, ignorance, or prejudice.

By solely attending to the former part of this definition, many of the wisest men have been accounted mad, which however shews that to be the basis of the definition in the general opinion.

I have laid the stress upon thinking differently from mankind, because simply acting differently does not constitute insanity. The highwayman is not insane because he is not convinced that he acts right, whereas insane persons ever act from a thorough conviction of rectitude.

There are three principal kinds of insanity,
totally

totally distinct and different from each other. These are fatuity, madness, and delirium. Each of these may be again divided into two species : fatuity into folly and idiocy ; madness into melancholy and mania ; delirium into desipience and raving. This division seems as natural and important in the first and last kinds of insanity, although it has scarcely been pointed out, as the middle one, where it has been universally recognised ; the difference between the two species in each depending in a great measure upon the energy or activity with which it is accompanied. Thus there are quiet and innocent fools, as well as mischievous and highly noxious ones ; and the desipience which accompanies the gaol or hospital fever, appears very different from the violent furious raving in phrenitis.

In fatuity the perception of external objects is perfectly right, though perhaps dull ; the recollection of them, or the memory, is also right, though apparently very feeble and indistinct ; but the faculty of comparing, associating, or combining these, or, in other words, the power of reasoning, is almost entirely wanting.

In madness the external senses are right, and it is only the memory or recollection of

former objects that seems depraved. By this is not meant a loss or deficiency of memory, as mad persons recollect with great acuteness most of those things which have happened to them; but with these they mix a false imagination of things that have been said or done by or to them, which in reality never happened; and this false memory of things that never had an existence, is at least as strong, and seemingly as precise, as their recollection of such as really happened. It is upon this false remembrance that they act and say all those things that constitute the disorder. The faculty of reasoning is unimpaired; nay, if allowance be made for the false data presented by their memory, the patients often reason with an acuteness, and reply with a wit and brilliancy-unknown to them formerly in their best state of health. - The sufferers also have a clear determined purpose, which they make use of proper, often the most proper, means to attain. Thus madmen make use of a knife or sword, not a straw or lath, to injure or kill the person who in their opinion have offended them. In short, maniacs often exhibit great energy both of mind and body; and melancholics, though they do not shew such extreme momentary strength of either, yet

yet they mostly make up by singular perseverance for what they want in sudden exertion.

Very different from madness is the alienation of mind usually called delirium. This I would divide also into two kinds, *desipientia* and raving: the former bears a slight resemblance to melancholia, whilst the latter, having some of the features of mania, is by incautious persons sometimes confounded with it, to the no small detriment of the sufferer. In delirium the external senses, especially those of sight and hearing, are depraved. Thus during delirium persons are supposed to be seen who are not present, beings that have no existence. Sounds, words, and sentences, are likewise supposed to be heard which have no reality, and conversations are almost constantly supported, either in a muttering or furious way, with these beings fancied present. The memory of persons in delirium is rather blunted than depraved. It is therefore vague and indistinct, seldom, if ever, presenting strongly any thing which either had or had not an existence. The mind also has no perseverance, no energy, no clear, determined purpose, and when they appear to have some purpose in view, they as often make use of means to obtain it, totally

tally inadequate, or even ridiculous. Their reason is totally deficient, and they are much more nearly in a state of fatuity than in that of madness.

To sum up all these distinctions in a few words, the deviation from the *mens sana*, is, in fatuity, a want of the power of reasoning; in madness a vitiated state of the memory; and in delirium an error in both, together with a depravation of the external senses.

I shall now proceed to such a description of each species as will, I hope, impress their difference more fully on the mind than any discrimination drawn from a few leading symptoms only can possibly do.

Fools or idiots are known by a total disregard of decency, a vacant silly countenance, or, if roused to attention, by a stupid stare, a distorted laugh without cause or meaning, a lolling tongue, an inability to speak, or at least to utter words distinctly and articulately, and an incapacity to learn any thing useful, much less scientific. But I need not dwell longer upon this deplorable disease, which, when idiopathic, never admits of cure, or even mitigation.

In the first approaches of melancholy the persons become silent and absorbed in thought,
dislike

dislike being spoken to or roused, and seem always occupied in some grave contemplation. Jests, laughter, and every species of hilarity, seem irksome to them, as do all kinds of business. If questioned concerning being unwell, they deny it. Their nights are restless, or when they sleep, it is anxious and disturbed, and they wake from it in a fright, and without being refreshed. Their countenance is pale or fallow, and dejected. They avoid society, flying to solitude, where they sit or lie for days, in silent contemplation.—Thus far they are unnoticed, their friends seeing little of them, and their menial attendants not perceiving much amiss.—Their complexion now becomes dusky, almost livid, or covered with dark spots; the look timid and sorrowful; the eye downcast and steady, with the pupil somewhat dilated, or cast sideways upon objects; pulse slow; heat little; when obliged to move, their motion is slow, measured, solemn, or torpid, with folded arms.—Their speech is slow, sedate, solemn, measured, and argumentative; and they are mostly buried in sorrow. A good dinner, with a moderate quantity of wine, seems at first to bring a little cheerfulness

fulness with it ; but in a short time this gives place to increased dejection of spirits, attended with slow but constant passions, difficult to be excited, but when raised as hard to be allayed. Their muscles appear totally relaxed, attended with great lassitude. They have now a laborious, profound respiration, with reiterated sighs, and they frequently shed tears.

The disorder of the mind now begins to manifest itself more. Their silence gives way, in some degree, and they complain of some action that they have done against some friend or relative, or some crime that they have committed, which can never be forgiven by God or man. This action is often totally imaginary, or where it has a slight foundation, they exaggerate it into a matter of the most unbounded magnitude. In short, their memory, which is the most diseased part, constantly makes them worse than what they are, and sometimes suggests to them their having undergone the most whimsical, ridiculous, or degrading bodily changes.

As the disease proceeds they become suspicious of all around them, and imagine they see conspiracies against them in the most trifling

trifling occurrences. They think all their friends are become enemies, which induces a *tædium vitæ*, ending often in suicide. Their thoughts are constantly bent towards one object. They enjoy but little sleep, and that anxious, waking often in a fright. They become extremely silent, but have great anxiety painted on their countenance, which at the last becomes austere and morose, with eyes betokening treachery and despair.

During the progress of the disorder there are often but few bodily complaints. There is but little perspiration, and all the other evacuations are torpid and diminished. They become emaciated, although their appetite may be far from bad. At other times they refuse nourishment, fasting for days, nay, often weeks. The vicissitudes of the weather seem to make little impression upon some, others sit close to the fire in summer or bask in the sun, whilst in winter they appear insensible of cold, and avoid heat studiously. They lose all regard to the common civilities, or even decencies, of life.

It has been said that persons liable to melancholy usually possess singular genius; and a line of Pope will be recollected wherein he
asserts,

asserts, that great wit is nearly allied to madness; from whence some have gone so far as to suppose that persons of a weak understanding never become mad. In my opinion the supposition is not founded in fact, and arises partly, from a few persons of genius having become insane, who therefore are more spoken of than the infinitely greater proportion of weak persons who are so, and partly from confounding hypochondriacism with melancholy; the former being almost exclusively the disorder of ingenious studious literary persons, and which sometimes degenerating into the latter, has made the utmost confusion in the description of both, by authors not distinguishing accurately where the one ends and the other begins, but giving the same symptoms indiscriminately to both.

In idiopathic mania the first symptoms that usually occur are, a great degree of restlessness or wish to change place. If the persons be in a room they cannot sit still, but are continually rising and walking about; even when sitting they cannot keep their arms, legs, or almost any part of their body, quiet for a minute; the postures in which they place themselves are also apparently forced,

forced, and unnatural, and what would make any person in health uneasy. All their motions are quicker than ordinary ; they walk quick, stop suddenly, and talk hurried. If walking alone they are constantly talking to themselves ; this, however, is not so remarkable a symptom in London as in the country, so many persons who are perfectly sane doing it in the streets : which, I believe, is owing to the constant noise drowning the sound of their voice, which, in rural solitude, would strike their own ears, and so prevent its repetition ; add to this, that here almost every man shews a visible eagerness and busied countenance unknown in the country. In walking their arms are almost continually in motion, their head also partakes of the general restlessness. Their eye is constantly roving about, and scarcely attending to the surrounding objects. They talk in a desultory way, flying from one object to another, in the suddenest manner, and engrossing most of the conversation to themselves, in which they usually mix much unnecessary laughter. In going through the streets they often stop persons with whom they

they have but a slight acquaintance, asking them a few rapid questions, or talking of trivial matters for a moment, then run on, scarcely waiting to hear what they have to say; yet when they meet an intimate friend, they scarcely notice him, or, if obliged to do so, hurry away from him as quickly as possible. They become loquacious and argumentative, but highly impatient of contradiction. When they talk of trifles they speak with great violence, and often noise, paying little respect to the rank of the person with whom they converse, despising every thing said or done by others, and expecting the utmost deference to be paid to themselves. They are fond of quick motions on horseback, or in a carriage, often taking jaunts on purpose to be driven as quickly as the horses can go. In this way they also indulge their propensity to change of place, of scene, or of company. They have a strong inclination to drink too much wine or spirituous liquors, and are likewise fond of merriment, jests, laughter, singing, and music. During the time that the disorder keeps in this state little suspicion is entertained of the patients' real

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real situation, the persons most about them ascribing the oddities which they observe to, a too frequent indulgence in wine, keeping their mind, as well as body, heated and irritable; and those who are not intimate with them being incapable of knowing that their present differs at all from their former state of mind. It is not to be imagined that all the symptoms which I have mentioned occur in the very beginning, at least not in so striking a manner. These symptoms also only recur at intervals, as they are produced by some exciting cause, as anger, wine, or exercise, whilst at other times the patients are as cool and collected as usual. These intervals likewise tend to hide from their friends the real disordered state of their mind.

After this state has lasted perhaps for some weeks, the intervals becoming shorter, and the paroxysms stronger, the patients shew some unequivocal sign of derangement. This often happens in money matters. During the former stage they were more generous than usual, even so as to appear profuse; but they now become totally careless of their property, squandering it away most unnecessarily and absurdly to support a fancied consequence

quence and dignity which they assume. Indeed it rarely happens that maniacs do not fancy themselves to have become kings, princes, or nobles, bestowing titles, honours, and wealth, at their discretion ; or at other times prophets, apostles, or even greater, disposing of every thing in this world and the next at their sovereign pleasure. They now think themselves above controul, commanding all around them, and striving to awe every one by the fierceness of their eye and steadfastness of their look, yet when overcome by the superior sternness and constancy of another person's look, they submit easily to that person ever after, thinking themselves completely conquered. Ever after being so conquered, and especially if they have suffered any coercion, they become suspicious, insidious, and cowardly ; often striving to injure those about them in an underhand, crafty way. I know not how it happens that most writers have described maniacs as courageous, which I am convinced is not the fact. It is true their cowardice is very different from the timidity attendant upon melancholy persons, which last rarely, if ever, prompts them to injure others. They mostly conceive themselves

injured by those who have been most friendly to them, thinking that they recollect a number of their actions to them, that in reality never had an existence, and grounding their violent resentments upon ideal faults. Their mind, as the disease increases, becomes the reverse of what it was formerly. Thus, if moral and pious, they become profligate and obscene; if modest, they appear divested of shame, not covering their nakedness nor seeking to screen their evacuations, but spitting at their attendants, and wallowing in dirt and mire. Their eyes are bloodshot, eyebrows scowling and malicious; at times they appear neither to hear nor see. They are strong, falacious, and have often a priapism. They have no care nor thought of futurity. They delight in noise, railing, scolding, bawling. Their skin is dry, often scaly, and I have always remarked a peculiar smell or foetor about madmen, by which I think I can distinguish the complaint on first approaching them.

Most writers have said that melancholy was partial, and mania universal insanity. I believe there is no universal insanity except in some cases of idiocy and delirium. I never

saw the maniac who did not understand, nay, reason tolerably well upon some points; that is, when he will deign to take notice of or converse with any one. Fever has been said by many to be an attendant upon mania, but I believe, likewise, improperly. The truth is, maniacal persons may become feverish, nay delirious; and, indeed, the rage and violent action that they often throw themselves into, must tend to produce fever. Delirium in fever we also know degenerates sometimes into mania. These disorders are therefore, in some measure, convertible into each other. The last remark may be extended to mania and melancholy, each sometimes being changed into the other in the same person. Both species are chronic diseases.

I have already said there are two species of delirium. In the first, or low species, the patients lie mostly on their back, with a vacant relaxed countenance: their eyes shut, or, if open, fixed upon vacancy, the pupils not being contracted to the degree proper for seeing the object towards which they are turned: they are continually muttering in an incoherent, irrational manner: they attend to nothing around them, and when roused by

by the by-standers to pay some little attention, after giving, perhaps, one tolerably rational answer, they immediately relapse into their former nearly insensible state: they are continually picking at the bed-clothes, or if dozing, their fingers are in constant trifling motion: their pulse is quick, but small and unequal, so as to be difficultly counted, and when numbered to give the utmost variety: their tongue often appears nearly as in health, but when put out has a tremulous motion, as have their extremities: their skin is soft and relaxed, seldom betraying much heat: they are insensible of their evacuations: inclinations or appetites they seem almost destitute of, even for drink: they are sometimes fretful with their attendants, but that quickly subsides.

The raving delirium is, in some respects, very opposite to this, though in others it coincides with it. In this the patients scarcely ever close their eyes, remaining a week or more, if they live so long, without any sleep: their eyes are dry and mostly bloodshot; they fix them with great intenseness upon vacancy, where they obviously think they perceive persons or things seen by nobody else,

else, with which they hold conversations apparently very interesting to themselves: they are always earnestly intent, in appearance, upon something, which, however, can rarely be comprehended by the attendants: they have an eager, often a fierce look: they throw about their arms much, and are perpetually attempting to rise from bed, and to go somewhere, yet, if permitted, they know not what they would be at: they are exceedingly quarrelsome with their attendants: they attend not to their evacuations: they know not where they are, though, perhaps, in their own bed-chamber, and they as little know those about them, yet if forced to attend, they take it very ill to have their knowledge questioned, being very irascible: their skin is hot, often dry, or if sweating, only partially so about the upper parts of the body: their pulse is quick, but full and sharpish in the stroke, and tolerably uniform: their tongue is dry, lips and teeth covered with a black fur: they are mostly thirsty, preferring cold water to every other beverage. This complaint is much more rapid in its progress and termination than the former species.

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I have thus attempted a description of delirium, with some of its concomitant symptoms: but to give them all would require a detailed account of every species of fever; I have therefore mentioned such as seemed most connected with it; and shall only farther mention a few remarks concerning it.

Delirium is most frequently attendant upon the acme of fevers, but it likewise is sometimes almost the very first symptom of them, in which suicide, or an attempt at it, is often the consequence. I have known several of these attempts which have not succeeded, and have almost ever found them owing to fever preceded by delirium. This fact I wish to be more known, and farther descanted upon, than my present limits will permit.

Delirium likewise often lasts for a time after fever subsides. Of this kind is that species which follows the fevers of lying-in women, which has been often mistaken for madness, but which is very curable, and without return.

Having said thus much to distinguish the various kinds of insanity, not only from health, but likewise from each other, it seems requisite to add what may discriminate them

them from some other disorders with which they may be confounded. Of these the principal are the hypochondriac and hysteric diseases.

The hypochondriac disease may affect either sex, and approaches the melancholic in some things so nearly, as to have puzzled many nosologists to distinguish them. This ambiguity arises from the one disorder sometimes degenerating into the other, in a similar manner as raging delirium degenerates into mania; and authors not having laid down any fixed distinction between the two, have described them nearly in common. The hypochondriac disease agrees with the melancholic in extreme dejection of spirits, and anxiety, but for different objects; the sufferers under the former having their mind almost entirely taken up with the state of their health, which they imagine to be infinitely worse than it is, constantly auguring death, or the most dreadful consequences from even the most trifling ailments; whilst the thoughts of the latter class are employed upon their own supposed former mental depravity, by which they have forfeited, in their imagination, the friendship of those they love, and the favour of the Supreme.

Supreme. In the former there are indeed much more marks of the body, particularly the primæ viæ, being diseased. From this latter circumstance the late celebrated Dr. Cullen has taken his distinction, yet plainly without any confidence in his own opinion, as may be seen by his note on melancholia, in which he says, that “if these two diseases can at any time be distinguished, it is by no other sign than the indigestion being present at all times in the hypochondriac disease, whereas in the melancholic it is often wanting.” To this might be added, that in the former the indigestion precedes the sorrowful state of the mind, whereas in the latter, when idiopathic, the state of the mind precedes, and is unconnected with, and often unaccompanied by, the indigestion. Let us try, however, whether a more accurate distinction cannot be found out.

Hypochondriac persons always have a number of bodily complaints which are real and serious, although the dejected state of their spirits makes them exaggerate them very much, especially in the beginning, for toward the end of the disease they scarcely admit of exaggeration. On the contrary, me-

lancholic persons mostly deny their having any bodily complaint, or, at least, any which they can find words to describe. But a much stronger distinctive mark may be taken from the state of the memory in each. In the hypochondriac disease the recollection of past events is sufficiently perfect, and it is only the internal feeling arising from thence which is too acute, and the imagination too much alive to sorrowful or painful impressions, magnifying all things which can feed their sorrows, into matters of the highest consequence, though in themselves of little importance. On the contrary, the memory of melancholic persons is totally vitiated, presenting to them numberless things which never happened, and of which they are so well convinced, that no reasoning of their friends, nor their strongest assertions, nor asseverations, can in the smallest degree lessen their belief. Whensoever hypochondriac persons have their memory thus changed, they become melancholic or maniac, in which case I mostly find their bodily complaints greatly diminish.

I have already said that I look upon the hypochondriac and hysteric disorders to be
different

different from each other; by which I do not mean that there is not a disease among women so exactly resembling the former, that I consider it to be the same, and to merit the same name. But there is also a disease almost confined to the female sex, which is so entirely different from this, that I think the term hysteric should be solely appropriated to it, as we would thereby avoid the confusion arising from the supposition of both disorders being the same. A very evident distinction appears between the two diseases in the state of the temper or spirits, which in the hypochondriac disease are always in some degree low, inspiring them with a greater or less unnecessary dread with respect to the state of their bodily health. Whilst, on the contrary, no persons have a greater flow of spirits than hysterical patients often have, and wheresoever I find this amazing inequality of spirits, I pronounce the disease to be hysterical, even in men; whereas whenever the spirits are always depressed, though at different times in very different degrees, I denominate it hypochondriacal, even in the female sex. But many other differences will appear in the description of each.

Another

Another most remarkable trait of hysterics is the suddenness with which, without any evident cause, or on the slightest one, the symptoms come on or change from one class to a very different one, or even to the highest degree of health and spirits.

The first, and indeed the most permanent symptoms of hypochondriacism, are those of indigestion. The patients complain of a heat and pain along the course of the œsophagus, and about the pit of the stomach, usually called heartburn. They are troubled with a fulness of the stomach apparently from wind, which they bring up at times by belching, accompanied with a sour unfavoury taste. Some also bring up, without vomiting, clear cold water; others have uncertain vomitings, especially after a full meal. The wind which at first only affected the stomach, afterwards descends into the bowels, producing croaking, rumbling, and noises called borborigmi, together with snatchings and pricking pains there, sometimes so great as to be denominated colicky or nephritic. The appetite is sometimes keen, but in general very various, as are the alvine discharges at first; but in the increase of the disorder, the patients often become very costive, discharging black hardened

ened excrements, with much pain and straining. At this time their bowels are very difficultly soluble, requiring strong cathartics to produce any effect. They often are troubled with piles, especially internal ones, attended with great pain, and frequently blood.

Whilst these symptoms of indigestion are going on, others, most probably the consequence of them, are very troublesome. There is often a weight, oppression, or tightness, felt about the præcordia, with palpitations of the heart. There are frequent flushings and flying heats of the face, and even over the whole body, at other times the face is pale; headachs are frequent, followed by great giddiness. Their eyes are dim at times, and they complain of a sounding in their ears. In short there is no part of their frame that does not seem indisposed. The urine is exceedingly various, at times small in quantity, and muddy or like whey; at other times, especially if any cause of flurry have intervened, it is made frequently, and in vast quantities, as clear as spring water. They become exceedingly watchful, their sleeps being short, anxious, and disturbed often with dreadful dreams, from which they waken in a fright, covered,

covered; perhaps, with a cold sweat: neither do they perceive refreshment from sleep, but are languid and weary after it. They are greatly affected by the weather, and are often able to foretel a change in it by the previous alteration they feel in themselves.

After the bodily complaint has made some progress, the mind becomes also affected. At first this affection is confined to an incapacity to pay long or close attention to business. They become extremely low-spirited, and sorrowful, sighing frequently. They are likewise fretful, easily offended, and put into a passion by the merest trifles. They are supine and irresolute, doubting every thing, timid and suspicious. There is one thing in the mental part of this complaint, which is more conspicuous than all the rest, this is their supposing themselves afflicted with almost every disorder they have ever seen, read, or even heard of. Although in their better moments they are fully sensible of these whimsies, and angry at themselves for indulging in them, yet so overbearing is the disease as to get the better of all that they or others can say to them against it. They are even disobliged at any person who tells them

them that they look well. They are minute observers, and tiresome describers of their complaints, exceedingly querulous, and fond of complaining, thinking every thing of consequence, and even sometimes prognosticating a fatal event, because they have not some particular bad symptom, which a person who died of any other complaint was free from.

The hysteria is said by some to put on the appearance of almost all disorders, by which is it not plain that they confound most diseases with it? It is true that the hysteria is accompanied with a great variety of seemingly different symptoms, yet all these may, I think, be deduced from a convulsion or contraction called spasm of the parts affected, owing to a superior degree of nervous irritability. In this its first and slightest symptoms may be distinguished, and in the same all its most violent, as well as most anomalous ones, are founded.

The first appearances are tremors and flurry upon the slightest causes. The patient's whole frame is susceptible of impressions to an amazing degree. Thus the least noise or surprise affects them greatly; as does any mental affection, as anger, vexation, disappointment,

pointment, and even merriment or pleasure. At these times they feel an internal beating, throbbing, trembling, and even a palpitation of the heart. As these become more irksome they acquire a certain dread of them, which torments them greatly. I mean a bodily apprehensiveness, before the mind can well take the alarm, therefore the sudden opening of a door raises the greatest flurry. Of this bodily apprehensiveness I have an instance in my own frame, having when young persevered in the use of electricity for a tremor in my hands, until it greatly disagreed with me; I am convinced that I could now stretch out my arm to be cut off with more firmness and resolution, than to take the slightest spark from an electric machine, although my mind is well convinced that it is not so painful as the prick of a pin.

The head, as being the source of the nerves, is likewise more strongly and frequently affected with this complaint than any other part. A sensation of coldness is often felt there, and especially towards the back part, as if cold water were pouring, or a cold wind blowing, upon it. There are frequent headaches without any manifest cause, and there is

is sometimes an intense pain, resembling a nail being driven into it: this is so circumscribed as to be covered with the top of a finger, and is sometimes felt in the top of the head, often above one of the eyes. The eyes are often dim, there is frequently a sounding in the ears, and a vertigo is at times troublesome: these last-mentioned symptoms seem to be what are commonly called vapours. The throat is often, and variously afflicted. Sometimes there is great hoarseness, or an entire loss of voice, which comes on almost instantaneously from any affection of the mind, and subsides as rapidly as it came. At times a hair seems to be lodged about the top of the larynx: but the most troublesome symptom is a sense of constriction there, as if it were grasped firmly with the hand: this is often attended with the sense of a ball rising up the œsophagus, and if it be not dispelled by belching of wind, it produces a degree of strangulation, depriving the patient, for a time, both of sense and motion. A copious spitting sometimes arises evidently from the glands about the throat and fauces. A pain in the back or sides is not uncommon.

The heart is sometimes affected with pal-
Vol. V. D d pitations,

pitations, but what is thought to be so, is often only a fluttering of the parts in its neighbourhood, as may be known by the pulse remaining perfectly uniform during the time. This fluttering is a very frequent symptom. A difficulty of breathing sometimes attends the disorder, with tightness across the chest, and a short cough is not uncommon, especially when any thing has occasioned a nervous hurry; a hiccup likewise is an attendant on it. The stomach is always affected in some manner. In some there is a sense of tickling in it, in others of coldness; but much more frequent is a fulness, oppression, and swelling there, relieved by expelling of wind. There is often a sensation of a want, or vacancy there, attended with lowness and faintness, relieved by taking stimulating food. The appetite is very various, but seems, upon the whole, quite sufficient to the support of the body. Cardialgia and pyrosis are not unfrequent. There is often, especially after windy food, a very troublesome rumbling or croaking heard in the bowels; a large ball likewise appears to roll about in the belly. The urine is very various, at times high-coloured, muddy, and in small quantity, but often perfectly limpid,

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in large quantity and frequent: this usually happens after any nervous affection, and is attended with relief. A degree of strangury sometimes attends. There is a very troublesome complaint often attending the extremities, particularly the lower ones, and at night in bed; this is a constant restlessness, and inability to keep them so long quiet as to take needful sleep. Cramps of various parts are very frequent. There is another symptom exceedingly common, about the cause of which I never could satisfy myself; this is a puffy swelling, which is commonly supposed to be windy. This sometimes occupies a great surface of the body, at other times is confined to a particular limb, or small part of one. It rises very suddenly, and after lasting some hours, disappears as quickly. Its seat appears to be the cellular membrane, but how air should get there, or a watery fluid be so circumscribed, I leave to others to determine.

Fits of two different kinds are very frequent in this disorder. The first are incident to very young, fallow, or chlorotic patients. In these they become quite pale or livid, the body becomes cold, the eyes shut, the pulse and breath stop, and they appear lifeless. At last they begin to sigh, yawning and stretch-

ing themselves, and, by degrees, recover their natural warmth, the pulse, and all the faculties, returning as before. The other species of fits attack women of a more robust make and sanguineous temperament. These are attended with heat, sweating, foaming at the mouth, struggling, strong convulsions, shrieking, or muttering, raving and making strange noises; during this time their colour is fresh, nay, rosy; their pulse and respiration are, however, very various, sometimes stopping at once, then again returning with violence. After the fit they are sometimes sick, and vomit green highly acid bile. They likewise remain languid, weary, sore, and bruised, and sometimes hot and thirsty for some time.

I should have remarked, that crying is a very frequent symptom with most hysteric patients, and often without a cause. This mostly gives relief, and is therefore not to be too much repressed. But there is another symptom which sometimes happens of a much more distressing kind; this is hysteric laughing. The fits of this will last, at times, for many minutes, nay, for near an hour, leaving the patient weakened and distressed beyond measure, and returning several times a day,
upon

upon the slightest emotion, as the coming of a person into the room, or the seeing of a new face. This symptom is a very intractable one, mostly lasting for months, nay, sometimes years.

I have thus endeavoured to give as full a description, of the disorders treated of, as my own practice has enabled me to observe, having, I believe, mentioned nothing but what I have seen myself; I must however remark, that all the symptoms that I have enumerated in each disorder, do not occur in the same person, it being sufficient to constitute the complaint, that the characteristic ones occur, together with several of the others; nor do they always succeed each other in the order here set down, no other diseases being liable to such variations; but as they are all, except delirium, of the chronic kind, there will, in their progress, generally little doubt remain to which class any particular one is to be referred.

I have been led into a much larger field in this disquisition than I at first intended, but in reality the subject led me, not I it. I have, however, a greater fault, perhaps, to apologize for, which is, too much egotism

in laying down my own opinions ; for this I hope for the pardon of the society, when they consider that it is now nearly half a century since I began to study physic, during a large portion of which time I have been a physician in very extensive practice ; not, therefore, to give some degree of authority to my own observations, would be, perhaps, too great an affectation of modesty. There is one remark, however, which I beg leave strongly to inculcate, and to conclude with, which is, that in distinguishing disorders which have an affinity to each other, there will, in particular cases, be great difficulty ; the shades of difference, as they approach, being so very minute, as almost to escape the most experienced mind. Every thing in Nature is a continued chain, without those breaks and intervals which even the accurate describer is obliged to make, in order to keep up due discrimination, and to render himself intelligible. In most of these cases, however, that admit of hesitation, the best mode of practice is not so doubtful as the theory.

ARTICLE XXXVIII.

*Case of a Gun Breech penetrating the Cranium,
and remaining within it two Months, pre-
viously to the Death of the Patient.*

BY MR. JOHN WALDON, SURGEON, OF
GREAT TORRINGTON, DEVON.

Communicated by JOHN ABERNETHY, F.R.S. ASSIST-
ANT SURGEON, AND TEACHER OF ANATOMY, AT
ST. BARTHOLOMEW'S HOSPITAL.

Read SEPTEMBER 3, 1798.

IN the afternoon of November 29, 1796,
I was summoned to attend Daniel Taunton,
of the parish of St. Giles, a young man, aged
19, who was considerably injured by, what
was then supposed, the bursting of a gun.
On my arrival, I found my patient in his
perfect senses, notwithstanding the os frontis
and dura mater had been perforated a little
on the right side, and above the frontal sinus,
a considerable quantity of the cerebrum was
then upon his clothes, and exuding from the
orifice of the wound. On further inquiry I
was informed, both by the patient and his
friends, of the following circumstances: that

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about five o'clock in the afternoon of the preceding day, as he was shooting at a wood dove, he was knocked down in consequence of the bursting of the gun. No person being with him at the time, the first effects of the injury could not possibly be ascertained; he was probably deprived of sensation and power by the accident, as he remained in the wood until the afternoon of the following day, comprising a space of 22 hours, during a very severe frost, and was found about 60 paces from the spot where the accident happened. From a consideration of the nature of the injury, and the manner in which it could have been inflicted, I hesitated not a moment in declaring, that the breech (as it is called) which screws into the back part of the barrel of the gun, could only have effected the mischief. On the gun being found, my prediction was fully verified—the barrel being perfect, and the breech gone; which carried with it the whole of the wood part of the stock on a plane with itself. Notwithstanding he was at this time sensible, I still doubted, from the force with which the breech was dislodged from the barrel, and the resistance of the os frontis and dura mater being overcome, whether

ther or not it might be left in the cavity of the cranium. I immediately, in the most gentle manner possible, introduced my finger as far as I judged it prudent, in order to detect whether any extraneous body was lodged there or not, but without effect. Having lost a considerable quantity of blood, as appeared from examining the spot where he lay the preceding night, I judged it not expedient to open a vein, but contented myself, for that night, with wrapping the upper part of the face in a warm poultice, and a laxative mixture was given, in order to unload the intestines, together with a very strict observance of the antiphlogistic regimen. The next morning, to my inexpressible surprise, I was informed, that he had passed a good night, retained his senses, and was in good spirits. On removing the cataplasm I found that an immense discharge of a bloody fluid had exuded from the cavity of the cranium, and which continued for several days to be thrown out to the quantity, at least, of a pint every 24 hours by the pulsatory motion of the arteries. On removing, at this time, some part of the cataplasm from the internal canthus of the left eye, I discovered by my probe

probe the head of one of the screw pins which fastens the lock to the stock, almost buried beneath the inflamed integuments, and which had penetrated the diaphanous bone, forming the superior portion of the orbit of the left eye upwards, and obliquely backwards through the cerebrum towards the right os parietale, and which I extracted with some difficulty. For some days subsequent to this, few or no unfavourable symptoms occurred but a temporary loss of associating his ideas; he did not immediately recollect himself when awaking from sleep, and the discharge, spoken of above, continued profusely. On the morning of the seventh day from the time of the accident, I was alarmed at an incipient drowsiness, and the pulse (which had hitherto been about 70, and soft) sunk to 55, and his breathing also became stertorous; I now thought the tragedy was about to close, and death near at hand. Under those unfavourable circumstances, I immediately ordered the fomentations to be renewed, made large evacuations, and, in short, did every thing rather with a view to carry consolation to the house of mourning, than from the most distant idea of giving relief.

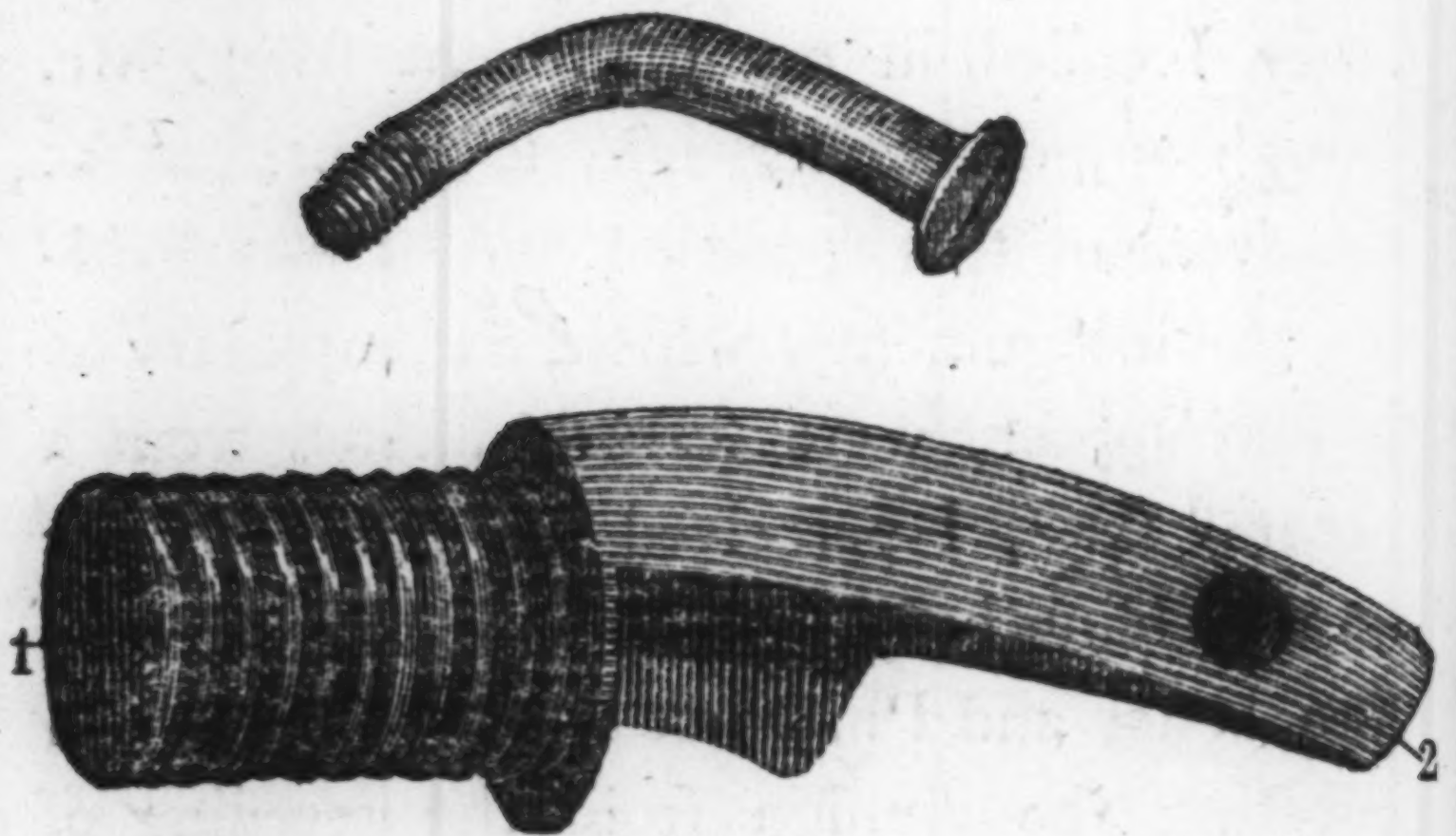
Here let me impress on the minds of my brother practitioners, whose high and important office in society renders them the guardians of what is most dear to their fellow-creatures, never, even in the most forlorn cases, to desist from every charitable attempt to administer relief—for what were my feelings on the following morning on finding those preludes to death had totally vanished, and life, as it were, in a state of renovation! From this period, Dec. 7, my patient's convalescence became apparent daily.—The tension of the integuments had subsided, the pain of the head, hitherto violent and almost insupportable, had left him, and a discharge of laudable pus was evacuated through the opening of the os frontis. In this state he visited my house, about the distance of two miles, every day, or every other day, sometimes on horseback, oftener on foot, to have his head dressed, without the least apparent fatigue or inconvenience. Precisely in this state he continued until the 20th of January, when a messenger informed me, that he had had a severe rigor, complained of great pain in the back part of his head and muscles of the neck, together with a total loss of appetite and inability to quit his bed. At this time

time I was informed by his friends of his having committed an irregularity by going to a feast in the neighbourhood, where I concluded he had indulged himself in eating and drinking more than I had hitherto allowed him. In this place I cannot omit mentioning the pleasure I felt during the last fortnight, at seeing the beautiful process of nature in regenerating the lost cerebrum, by throwing out from its substance granulations of an elegant faint blush colour. Now it was that the apprehensions which I had from the first entertained respecting the event of the case were about to be verified, for the symptoms with which he was now afflicted, and which were obviously the effect of inflammation and the formation of pus within the cranium, continued to increase until the 28th, when he was taken sick, and, during the act of vomiting, the attendants perceived, on a sudden, a large projection on the right side of the os frontis, underneath the sound integuments, and about two inches from the wound. On examination, I thought I perceived a large portion of the os frontis detached and in a state of exfoliation, and immediately declared it as my opinion, that the only chance my patient had, was by a free division of the integuments,

ments, and a total removal of the substance, be it what it might. The poor fellow's sufferings were now so great, that he would submit to whatever I thought proper. Accordingly I called in my intelligent friend Mr. Boughton, of Hatherleigh, to be present at the event of this operation. As I was dividing the integuments, which, extraordinary as it may appear, were scarcely altered from a natural state, I perceived the knife to grate on a yielding body, which appeared very unlike bone, and I had not a little difficulty in effecting the division from the receding of this hard body, what we had hitherto considered as detached bone. When, however, the division was completed, we perceived a round black body, which I immediately recognised as the breech of the gun. My friend Mr. Boughton then laid hold of it, first with a pair of forceps, and then with his fingers; and, after some difficulty, extracted the breech, a substance three inches or more in length, and weighing three ounces and one drachm, immediately from the substance of the brain, in which it was situated, in the longest and most dangerous direction; that is to say, with one end pointing to the

os

os occipitis, and the other to the os frontis; consequently it must have extended nearly to the centre of the brain.



1. The round end pointing to the os frontis.
2. The part directed towards the os occipitis.

The unhappy patient immediately became paralytic, and on the third day after extracting this substance from his head, died, under a complete subfultus tendinum. I could not obtain leave to examine the head after death.

Thus have I recited a narrative of facts, purposely abstracted from all theory, the case in itself being such as I have not met in the annals of Surgery.

*Great Torrington, Devon.
Aug. 17, 1798.*

JOHN WALDON.

ARTICLE XXXIX.

Sketch of a Description of a Species of Scarlatina Anginosa, which occurred in the Autumn of 1798.

By JAMES SIMS, M. D. &c.

Read DEC. 24, 1798.

A SPECIES of scarlet fever, different from that which I described in the first volume of the Memoirs of the Medical Society of London, having lately appeared in various parts of this metropolis and its vicinity, and having been attended with great fatality in proportion to the number of persons seized with it, I thought it would not be deemed mispent time to give some account of its leading features. Although the description of an epidemic, in its infancy, must be very incomplete, and although the change of season has stifled it before it arrived at any considerable maturity, yet the disquisition will not be wholly useless, as it may, in a certain degree,

gree, apprise some persons of its nature who might otherwise, on meeting with it, consider it as a nondescript ; or incite others, who have opportunities of seeing more of it, to add their knowledge to our present observations.

How far the state of the weather has had an effect in producing it, cannot, perhaps at present, be positively determined. Suffice it to say, that the winter and spring of 1797 had more frosty days than mostly occur, though none of the frosts were of long continued duration. This dry frosty weather was introduced by one of the coldest nights and mornings perhaps known since that of 1739 (the morn of Christmas day 1796), agreeably to what I think I have universally observed, which is, that in the beginning of frosty winters the descent of the mercury in the thermometer is in proportion to the quantity of frost that will ensue in that winter ; so that, if we observe the lowest point to which it descends, we shall be able to predict the degree of frost upon the whole, and the average degree of cold for some succeeding months. Since that time there have been nearly regular successions of rainy and dry weather, each lasting several months, thereby

by confirming my constant observation, that Nature always strikes a balance, by producing weather opposite in kind, and proportionate in duration, to that which has lasted for any extraordinary length of time.

In the winter and spring of 1797, a remarkable epidemic prevailed among the cats of London, which killed myriads of them. This disease was, from the difficulty of swallowing and pain on handling the throat, apparently an agina. There was in many a sanious discharge from the nostrils, and in some a running from the eyes; it was attended with great fever, quick laborious respiration, total inappetence, frequent retching and vomiting, strong convulsions of the muscles of the thorax and abdomen, dulness of the eyes, and a shaggy dry looseness of the hair. Some of the animals died the second day, but most died from the third to the sixth day. A few lived longer, and died greatly emaciated, being unable to get down food or drink, and frequently vomiting mucus, sometimes matter like pus. Cats that were with kitten or suckling seemed to fare best; the kittens, however, mostly died. Some had purgings

before death. The disorder appeared slightly the next spring in London, but was, as I have been informed, much more common in the country.

I have been more particular in mentioning this disease, from an opinion, that much information, as to epidemics, might be gained by tracing their progress through the whole animal creation. Homer makes his plague begin with dogs and mules, and most accounts of other plagues state a great previous mortality of cattle. A farther reason weighs with me for mentioning this, which is, that I have long entertained, and often mentioned to this Society, an idea that all infectious disorders are originally derived from brutes. The cow pox has been lately demonstrated to be so. The mange in dogs and cats I know to give the itch, and that of two sorts, the one being evidently larger than the other.

In the summer of 1798, a disorder prevailed much among horses. This, as I was informed by some, appeared to be peripneumonic; others, however, said it resembled the glanders, there being constantly a great discharge of foetid matter from the nostrils: which-

whichsoever it belonged to, all agreed that bleeding and the antiphlogistic regimen succeeded best in removing it.

If I were permitted to indulge in theoretical conjectures, I might trace epidemics to their source, in the following manner. Man's diet being both from the animal and vegetable kingdoms, and the former depending for food principally on the latter, a change probably takes place in vegetables prior to that in animals, and both serve to operate on man. The change in the vegetable creation must be produced, in a great measure, by the variations in the aerial and gaseous fluids with which it is surrounded; these variations act therefore both directly upon man, and also indirectly, through the medium of his aliment. Still farther, the variations in the atmosphere are all produced by light or heat, which also act upon all nature and man, as well directly as indirectly, through the different gradations above mentioned.

From an examination of the preceding recital, I should be inclined to dread the access of some great pestilential disease, which, I hope, however, the vigilance of our rulers will enable us to avert. To make such a

disorder prevalent two causes must always contribute. These are called the predisposing and occasional cause. The first is commonly thought to exist in the air. Be that, however, as it may, we know that at some times the introduction of the worst infectious disorders into a country produces little or no effect, whilst at others, it produces the most horrid devastation. In this respect the first may be likened to a collection of gunpowder, which is perfectly innocent if a spark of fire do not touch it; the spark is likewise harmless in itself if it be not communicated to the inflammable mass. The occasional cause, which is the specific infection, resembling the spark that is only noxious when it meets with the former.

I have been led to these reflections from having observed lately that some disorders have taken a more malignant turn than ordinary, and being informed, by other practitioners, that they have made a similar observation. The winter season may, however, prevent all bad consequences.

In September and October 1798, I was informed that a scarlet fever had been fatal to some adults about South Lambeth, and afterwards,

wards, during an attendance upon a case of it in that neighbourhood, was told that several children had died of it. It was not, however, until near the middle of November that I saw any fatal instance of it, at which time I met with some in that vicinity marked with such strong and peculiar features, as led me to extend my inquiries concerning it to different parts of the metropolis where it had been observed. The numbers that were seized with it in its very malignant form were not great, but the proportion of those who perished was alarming. Five I have been assured died in one family, and three in another.

During the existence of this disease a mild simple scarlatina also was seen sometimes even in the same house. A typhus was likewise uncommonly fatal in proportion to the few who had it. The principal features of this last were great quietude, or rather drowsiness, almost constant desipientia, and total insensibility to the evacuations from nearly the beginning. Besides these, and a small irregular pulse, there was little to create alarm, the tongue appearing clean, the skin feeling pleasant, the sto-

mach receiving drink and nourishment properly, and no violent evacuations seeming to prognosticate dissolution. And here I cannot avoid remarking, that I find those cases attended with most danger, where though some of the faculties shew great magnitude of disease, others seem natural and healthy. The symptoms are the principal means made use of by Nature to rid herself of any offending cause, and where some of these are languid and out of proportion to the rest, it shews that she is not properly roused, or is so oppressed by the greatness of the disease, as to be unable to exert herself. Perhaps dissection would shew the cause of all such disorders to lie in the brain. Towards the close of the epidemic some peripneumonies were seen, and I met with some striking instances of the croup. In the latter copious doses of the oxymel colchici seemed to have the best effect.

The angina of which I am treating was extremely sudden in its attack. The patients were apparently as well, perhaps in the morning, as for a considerable length of time, when all at once in the evening they were seized with great sickness, retching and vomiting

miting of bilious matter. This was followed quickly by heat of skin, headach, thirst, and quickness of pulse; to which before or in the morning was added that peculiar scarlet efflorescence, from whence the disorder is denominated. The danger of the disorder afterwards was usually in proportion to the violence of these first symptoms. The retchings continued in bad cases, at intervals, during the greatest part of the disease. In these cases also the inflammatory symptoms increased greatly during the first days, particularly the heat of skin and strength of pulse, which latter was as full as often in pleurisy, but not attended with so much hardness. The tongue appeared scarcely changed, only inclining to a little more redness; the eyes had likewise a slight red suffusion. The bowels were not lax of themselves, nor were made so by very gentle doses of medicine, but when purged were apt to be too much so.

About the third or beginning of the fourth day a redness and swelling of the face, or oftener of one side of the face, was conspicuous, affecting the nose, and preventing the freedom of respiration through that organ. At the same time also swellings appeared in

the throat on each side under the jaw. These last increased very rapidly, so as in about two days to acquire such an extraordinary size as to force the chin upwards, and to make, apparently, a straight line from it along the throat and sternum. In some extreme cases the face, instead of being perpendicular, was almost horizontal, being held more out of its natural position than upon trial I find I can force mine by any muscular exertion, even at the expence of considerable pain. This appearance, however, I am convinced, was heightened by the whole hollow of the throat being filled up by the tumours. The degree of this intumescence was very various in different persons, but there was another much more uniform symptom now attendant upon the disorder, insomuch that I have not heard of a single severe case where it was wanting. This was a great discharge from the nostrils, which came on about the fifth day. This was at first whitish, then yellow, but afterwards it became darker, with a most intolerable foetor. This most offensive discharge continued all the rest of the disorder where it terminated fatally. About the seventh day the pulse, which had hitherto kept up tolerably,

lerably, sunk entirely; their understanding also totally deserted the patients. They now lay a miserable spectacle of suffering humanity, breathing with labour through their mouth, which remained wide open, and which, together with their teeth and lips, became gradually covered with a black dry fur. The scarlet eruption did not decline at the time I remarked in my former treatise, but remained until the eighth or ninth day, when it gradually gave way to that purple appearance resembling a person chilled with frost, which is often seen in the end of typhus, and which is a sure forerunner of destruction. This, however, at the last changed to a blue or livid colour, especially about the throat; the tumours subsiding, but not totally disappearing, whilst life remained. The fatal period was about the tenth day in those cases which went on by the gradations just mentioned, the patient surviving without pulse or senses a longer time than is usual in fevers of almost any kind.

Although the tenth day has been mentioned as a not uncommon period of fatality, which, I believe, few survived who did not recover, yet in some it run through all its stages with much more rapidity, killing so
early

early as even the fourth day. But it seemed more proper to describe the tedious cases, as they shewed the gradations of the disease more distinctly. The rapid cases also seemed to differ from them in nothing but in the quickness with which they went through the various stages.

It may seem surprising that nothing has been said about the inside of the throat. The fact is, the patients complained little, and but little, of pain there in the beginning, and in a few days even this was no more heard of. Deglutition was throughout scarcely, if at all, impeded. As to ocular examination of it; in the favourable cases I could perceive little amiss, and in the others I was deterred from so dangerous an experiment by the great attendant foetor.

It might now be expected that I should lay down a method of cure for so deplorable a malady, but this I beg leave to decline, from a thorough conviction that I know of no certain, nor even probable method of curing it. Nor have I yet found any candid intelligent practitioner who is more sanguine as to the extreme cases of it, and as to slight cases, they recovered, under every management. One reason,

reason, perhaps, for this uncertainty was, the few cases any one individual had an opportunity of seeing, as it scarcely sooner appeared than it disappeared again, like a thunder storm just touching us in its passage; nor would I have thought it worth a description but for its extreme malignity, and a fear that it may again revisit us when the season of the year may be more favourable to its progress.

But although I cannot say what cured it, I can, I fear too decidedly, point out what did not.

Ever since the angina shewed such malignity in the years immediately succeeding the great frost of 39—40, it has been the too constant practice to have recourse to Peruvian bark and cordials in all cases of fore throat. As to the bark, both in this disorder and in typhus, or any other fever, I think it seldom serviceable where the tongue and lips are dry and dark coloured, and the teeth covered with a black fur. Nay, where there has only been a dryness of these parts, I have sometimes seen the use of the bark speedily produce that black furring, which is ever so bad a sign, and which the common people denominate the black thrush. I hope I shall
not

not be understood here to depreciate the bark, in any other cases, where it has been recommended, than in those before mentioned. Few, I believe, hold that medicine in higher estimation than myself, but in proportion as a remedy may produce excellent effects, when administered with judgment, so may it be pernicious if given improperly. What has been said of this remedy in the above stated cases, may, perhaps, be extended in them to wine and cordials. But howsoever the case may be in other disorders, I am convinced that, in that particularly now treated of, these remedies produced no salutary effect. The same may be said of blisters and other stimulants, though I have heard them praised by some because they had been used in cases, which being slight, the patients recovered, and would have done so, had any other method been followed. I had but one opportunity of trying the vitriolic acid, which was on a patient whom I saw first only on the fifth day of the disease, and whose situation gave me at the very first view, a most unfavourable idea of its exit. This, therefore, terminating fatally, would scarcely deter me from its use; but from an attentive consideration

ration of the symptoms, so very different from the scarlatina formerly described by me, I must own myself not at all prepossessed in favour of this acid in a disease of the present complexion. The antiphlogistic regimen, and bleeding, I have likewise heard were tried with no better success. But as to this I must remark, that the information came from a person on whose talent for observation much reliance could not be placed, which in medical matters I account to be of the highest importance: without doubt, at the close of the distemper, such methods would be highly improper, but that they were so in the beginning, in all circumstances and degrees, seems to me not so clear or probable.

Having stated the bad success of these methods of treatment, it may be asked what method ought to be followed. To theorists, indeed, the answer might be impossible, who having dressed up the old doctrine of *strictum et laxum*, under the new-fangled names of atony and spasm, excitement and collapse, &c. see nothing in all medicine but the application of two general rules. An experienced and diligent practitioner will however
see

see that there are still left untried many of the most powerful articles of the materia medica; I shall only say, that from experience I can venture to recommend nothing, and that whatever means are used must be prompt and powerful.

ARTICLE

ARTICLE XL.

Physical Hints and Queries.

By JAMES SIMS, M.D, &c.

Read FEBRUARY 4, 1799.

1. IN philosophizing there are two grand sources of error. The first is the determining what any thing is prior to the making proper experiments upon it. The second is not less important and common; it is the taking for certain the first conclusions drawn from appearances, without sedulously examining all the various causes that may produce or affect those appearances. In no instance have these causes of mistake operated, perhaps, more powerfully or uniformly than in the different opinions concerning the parts and constitution of this world which we inhabit. True philosophy consists in being
very

very circumspect in attaining all the necessary facts, but having them, being fearless as to the conclusions to which they may lead. Truth can never do harm, nor need an apology.

Matter has been said to be totally inert, and modern philosophers have discoursed of the vis inertiae, or the power of inactivity, in other words, the activity of inaction. Were I to state my opinion, it would be, that every particle of matter in all nature possesses a variety of inherent powers of motion and action, nay, is in a continual state of activity.

If a stone be held in the hand, it seems inert; but remove the hand, and it instantly falls to the ground: what kept it, then, in a state of apparent inactivity? The stronger action of the hand. A horse is not in a state of inactivity who is pulling at a load which he cannot move, his inaction is only apparent; cut his harness, and his activity is instantly evidenced by his rapid motion forward. Gravity is, therefore, an action.

The vis inertiae is said to be in proportion to the quantity of matter in any body. Thus
a ton

a ton weight is beyond the power of any man to move from the ground. But put it in one scale, and an exact equivalent in the other, and if the beam be a good one, a single horse hair will move both of them up and down, or stop them if in motion. What, then, was their *vis inertiae* in the first instance, but their power of gravity acting uncontrouled, and preventing motion?

The *vis inertiae*, as it is called by some, of moving bodies, or that power by which they resist being stopped, which seems to be the same as their momentum, is said to be in proportion to their quantity of matter and the velocity of the motion. But is it not evident from the case above mentioned, where two tons when in motion are so easily stopped, that the power requisite to stop motion, has nothing to do with the quantity of matter moved, but only with the power first moving it, to which it must ever be equal?

If a weight be supported by a cord it appears inactive; cut the cord, and by its instant motion downwards, it shews the contrary: what, then, hindered it from falling? The cohesion of the cord. Remove this com-

monly called attraction of cohesion, and the action of the cord ceases. Cohesion is then an action. Gravity and cohesion have been lately called laws; but can law mean here any thing else but the measure of an action? A few have indeed attempted to explain this particular action of solids, by referring it to an ideal æther, or the general action of the atmosphere, called its pressure; but this is only transferring the action from one species of matter to another; and is there any proportion between the weight that may be supported by a silk cord, or an iron pillar, and the weight of the air pressing upon their surface?

Lay a piece of dry wood upon the floor, it appears inactive, as to heat; but throw it upon the fire, and it soon catches flame. It may be said that the fire acts upon it, that is, the wood formerly set on fire is active, and the latter piece becomes, when burning, active in its turn to other pieces heaped upon it. A mass of gunpowder may remain long quiet, but let a spark of fire be applied to it, and it instantly shews tremendous activity. Fire is always in action.

A bullet is quiet when lying on the earth, but when propelled from the mouth of a cannon

non it rends walls or ships. It would seem not to require a Solomon to tell us that motion is action, at least when impeded by any substance whatever, yet has it been called a law. All matter when put into the action of motion, continues so to act until stopt by as strong an action as what first moved it. This is the law, but the cause is the inherent power of so moving, or, in other words, acting. The ancient philosopher thought that the best argument to convince his antagonist, who denied the existence of motion, was to rise up and walk ; and a man of plain common sense made use of a similar mode with the ingenious bishop Berkeley, who denied matter altogether, but who having run his head against a post, the other ironically said, " it is no matter." The same mode of arguing might be used here, but I hope that they who do not consider motion as action will not be so fully convinced of their theory as to expose themselves to a battery of cannon, otherwise one of the bullets may give too convincing a proof of its destructive activity. The converse of this proposition is also true ; action is motion, or, at least, an attempt to move.

The seed of a vegetable when planted in

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the ground, is first acted on by heat, moisture, and the earth; these three then, which are material, are all in action. The seed also soon becomes active of itself, it increases, shoots out a stem, removes the earth from above it, and raises itself aloft, where it produces for our use other seeds like itself. Thus not a bit of bread which we eat, but shews the activity of matter. If the vegetable were a fruit tree, after a certain number of years it becomes active to the annual production of fruit, each of which are capable of producing of other trees, agreeable to regular stated laws. Unless we allow a soul in plants, the sensitive ones will ever shew to the meanest understanding an activity in them: whilst to the cultivated mind the whole vegetable kingdom demonstrates similar though weaker action.

Every change which we see or can produce, arises from the activity of matter. Thus effervescence, boiling, distillation, and fermentation, with their products, all depend upon it. But to the chemist all Nature shews its activity, there not being a single particle of matter in this nether world which does not act, chemically, upon some other. All
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the tables of elective attractions are only a few of the infinitely varying actions of the different parts of matter.

A fluid cannot become solid, nor a solid fluid, but by the action of matter. Heat and cold universally shew it; light is in continued and very varied action. Electricity exists every where, one of the most active substances.

Magnetism is an action of some particular parts of matter, familiar to, and conceivable by, the weakest mind.

Some philosophers have gone so far, as to allow of one species of matter being possessed of activity, whilst they deny it to all the rest. This highly favoured matter of theirs is electricity, or, perhaps, the element of fire. Whensoever they are able to deduce experimentally all, or most of the infinitely numerous actions of Nature from that one, I shall not object to their system. In the mean time it may be remarked, that they have got over the stumbling block of all who regulate their opinion of Nature not by what is to be seen in it, but by systems formed a priore. Let me also ask whether it be a whit less objectionable, or irrational, to

allow activity to one species of matter, than to all? Does it not appear that the different parts, or particles of matter, are endued with activity different both in kind and degree? Electricity, or fire, therefore possessing great degrees of it, is allowed by them this superior privilege, whilst all other matter is left in its supposed inactive situation.

Besides the rapid powerful fire emitted by electricity, it has other well known powers of attraction and repulsion, which the hardiest stickler for the inactivity of matter will find difficult to account for.—Capillary tubes also shew an action upon fluids, so powerful, as even to conquer the effect of gravity.—The elasticity of cords, and various animal and vegetable substances, is very great. But that is much exceeded by springs of metals, particularly steel, as is evinced among various machines, by the common watch or time-piece.

I have not mentioned the retarding action of the friction or attrition of machines in motion, as, I believe, that will mostly be found not to exist, except as an action of gravitation. Thus in a beam and scales the descending weight is placed at a less distance from a perpendicular

cular line drawn through the point of suspension, than the ascending, in proportion as it goes down; a greater weight, therefore, becomes gradually necessary to carry it lower: in machines with wheels, as coaches, during the revolution there is a constant attempt to place the weight higher, and in pullies the same thing happens in the machine independent of the raising of the weight. Something similar, perhaps, takes place in all other pieces of mechanism where friction has been said to do so much, but where, in reality, the effect is produced by small differences of gravity, the action of which, in that particular instance, is not readily and evidently perceived, and therefore is not taken into calculation.

Thus not a house or ship which we build, not the clothes which we wear, not a barometer, thermometer, hygrometer, clock, nor watch, we contrive, but tells us the activity of matter. Not a tree nor plant which surround us, and afford us nourishment and health, not a river which runs, nor the ample sea which receives them all, with its various tides and currents, but holds out the same doctrine. Every breath of wind

that blows, cloud that skims sublimely along, and even rain, hail, or snow, demonstrates it. Music, with all its fascinating charms, conveys it to our souls. The majestically rolling thunder proclaims it aloud; the vivid lightning's flash infixes it in our hearts. Volcanos and earthquakes bring the most terrific evidence of it. The stars and moon by night give their apparently feeble testimony in favour of it, and during the day the enlivening, glorious sun, blazes it forth to all mankind. Nothing that we smell, taste, feel, hear, or see, but shews it; the earth, and probably all Nature, is held together by it: let us then not vilify the works of the Supreme, who has made nothing ignoble, nothing uninstruative, nothing base, useless, nor inactive.

2. Let us next examine what are the probable consequences of this activity of matter. The powers of man are extremely limited as to matter. We can no more destroy a single particle of matter than we can create the whole universe; nay, perhaps, we cannot even change its elements. But is Nature, or, in more proper words, the order established by the *Supreme*, so limited in its operations?

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It can probably change all the elements, and it is possible that to it there is but one element. If so, is not that one light? The matter of heat and electricity being but modifications of it: from these then, by a farther step, are not the different species of airs formed? Thus, when water is made to boil in transparent vessels, air bubbles are seen to arise constantly from the bottom. Is not this a conversion of fire into air? That this latter, with the assistance of the former, produces water, we know, by the recently invented experiments of that greatest of chemists, Lavoisier; and do we not see it every day confirmed in the formation of rain, which I have seen in the Alps formed under my feet, in the driest spots, where evaporation seemed impossible? Is not air also changed into water by animal respiration? From all these elements operating together are not, possibly, earths, salts, and metals, produced, in short, all the bodies usually denominated solid? I remember an experiment quoted by a late ingenious professor, which, if accurate, seemed to prove the last query. This was, that water on repeated distillation always left a residuum of earth behind, and that

that the proportion of this residuum was greater in every succeeding distillation. If this be true, is not the whole convertible into earth? But to leave what I fear is a doubtful experiment; do not the trials of plants growing in water solely, or in mould watered every day, in which case the earth is not diminished though the vegetable increases greatly, shew this conversion in a striking manner?

It will to some appear impossible that all the most dense bodies should thus be formed, from light or heat, which they conceive to be so inconceivably rare. The supposition of the vast tenuity of this element is borrowed from its possessing little gravity, which is thus made the sole test of density. But has the body, which penetrates all others with the utmost facility, more and greater interstices than those that are penetrated by it?

3. If this conversion of what appear to us as elements be true, to what conclusions will it lead us? Must not this globe which we inhabit be necessarily increasing in bulk every day?

That this is the case may be inferred from the vast variety of matters which were beyond

yond all controversy formerly on its surface, and which we now find buried in its bowels at various depths. These are found not only under vallies, and in the deepest mines, but also under high hills, and even mountains. They are found frequently with little alteration, and in a high state of preservation. They consist principally of the hardest parts of animals and vegetables. Thus of the former we have the shells of land snails, cockles, escalops, perriwinkles, echini, and others; the horns of moose deer; the teeth, bones, and even entire skeletons of fish and land animals: of the latter kingdom we find the trunks of roots of trees, and also their nuts, fruits, cones, buds, chives, and even leaves. Of this I once saw a remarkable instance in a neighbouring kingdom. A well was sinking near the summit of a hill; after passing through above sixty yards of a tough blue clay, the miners came to a turf bog, or peat moss, as it is called here. Near the bottom of this last was found a quantity of hazel nuts, and even leaves of the trees, a handful of which nuts I preserved for a great length of time. They were at first wet, soft, and seemingly swelled by the moisture, and,

on growing dry, they became very friable, never regaining their consistence, although they retained their shape and appearance. The leaves soon crumbled into dust. This incident, trifling and irrelevant as it may appear, which happened about thirty years ago, was the first cause of my doubting the Newtonian system, and indulging in the before-written speculations.

Pieces of timber, fashioned for the various purposes of houses, have been dug up at great depths, and parts of houses have even been found there. There is also scarcely an animal or vegetable, or part of them, which is not found petrified in various places at different depths, besides the *echinitæ*, *ostracitæ*, *conchitæ*, *mutæ*, *cochlitæ*, *clenitæ*, or *pectinitæ*, and insects and other things inclosed in amber.

Some writers have thought that these shells, &c. were produced where found; but this is too ridiculous to need refutation. Others have ascribed all to the general deluge; but this being avowedly a miracle, is an unfit subject of natural history. Linnaeus, one of the most religious of men, laying aside this last as a cause, thinks, that at

the creation the whole globe was covered by the sea except the top of one mountain, which was called the garden of Eden, and that ever since that time the water had been uniformly retiring, and the habitable land thereby increasng. But unluckily for this theory, during the last 2000 years, of which we have an accurate account, is it certain that the sea has been gaining upon the land less in some places than it has lost in others?

4. Continuing this system, I would say, that throughout all Nature the parts of matter, within certain limits, and under certain regulations, have the power of producing their like through the medium of these changes of the elements. The faculty which animals and vegetables have of generating their own species is well known, but the general rule mentioned above, extends vastly farther. The several parts of living animals have a similar power: thus bone is produced by bone, tendon by tendon, blood vessel by blood vessel, and nerve by nerve, as may be known by destroying some part of any of these. The same happens as to parts of vegetables, and in the mineral kingdom does not the same thing occur to a very great extent? The proofs

proofs and consequences of this I have not time at present to lay before you, but shall endeavour to collect them into a future paper for the use of the Society, together with many other parts of the subject, among which the following will not be the least interesting.

5. If the foregoing changes be thoroughly ascertained and scrutinized, may we not hope in time to be able to predict the alterations that are to happen in our atmosphere by them? It is possible that each of its constituent parts are increased and diminished with regularity in a kind of circle. That this is the case with heat we well know, which has a daily as well as annual circle. We shall, perhaps, in time have instruments to measure the quantity of oxygen, hydrogen, azot, &c. in the air, as well as thermometers and barometers. The circle then of all the species of air will be known to us, and we shall be able to foresee those conjunctions of them which produce all the different known effects on the weather, &c. in a way similar to our foresight of the conjunctions of the planets by calculating their different circles.

It is, perhaps, from these circles coinciding
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at times, and then necessarily diverging, that the atmosphere preserves that balance which is requisite for the production of vegetables, and, therefore, for the preservation of animal life. If it were otherwise, one state of weather might last so long as to extinguish totally the fertility of Nature. When, likewise, the different requisites for the production of one sort of weather coincide so accurately as to produce it to an extreme, and for a long continuance, it must be a longer time before such a coincidence can again occur; and the opposite condition of the air will therefore last for a length of time proportionate to the continuance of the former state. The accuracy of the coincidence just mentioned may be judged of, in some cases, at the very beginning. Thus when at the onset of either a hot or cold season there is a day in the extreme either way, we may, I believe, mostly expect a proportionate continuance of that species of weather.

6. Should we be able to foretell the changes in our atmosphere, the most important consequences would necessarily ensue. A year unproductive of grain would be foreseen, and so a scarcity or famine prevented. Hurricanes,
frost,

frost, or great heats, we should be able to prepare for. Epizootic maladies being the consequences of the state of the air and vegetation combined, would be foreknown, and, therefore, probably prevented in man, if not in other animals. The human body, possibly, deriving a great part of its susceptibility of infectious feverish disorders from the state of the atmosphere, from which these disorders derive also much of their virulence, may we not hope in time to be able to prevent, or, in a great measure, to counteract them?

7. Finally, in all our researches into Nature, let us take accurate experiment for our sole guide, laying aside all preconceived positions, such as, that matter can neither act nor move of itself, by which is meant, independent of all but the *first great Cause*: and let our motto be

Nil mortalibus arduum est.

ARTICLE XLI.

History of a Case of Incysted Dropsy, with an Account of the Appearances on Dissection.

By SAYER WALKER, M. D.

TREASURER OF THE MEDICAL SOCIETY OF LONDON,
PHYSICIAN IN ORDINARY TO THE LONDON LYING
IN HOSPITAL AND TO THE CITY DISPENSARY.

Read FEBRUARY 18, 1799.

THE discovery, by dissection, of the nature and degree of those morbid actions which have been produced in the human frame, and of those changes of structure which have taken place, is one of the greatest advantages we enjoy for obtaining a rational and well-founded system of pathology; and to report the appearances which occur on these occasions, in connexion with a history of the preceding disease, is an important mean of promoting the science of medicine.

About twelve months ago the president reported to the Society a case of an extraordinary enlargement of the abdomen, attended with peculiar appearances. My curiosity being ex-

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cited,

cited, and receiving permission from the president to call upon the patient, I embraced the first opportunity ; and being requested by the family to repeat the visit as often as convenient, I continued to call upon her, occasionally, to the time of her death, which happened in the month of January. Having, at different times, obtained from the patient and her friends various articles of intelligence respecting the case, I have drawn up the following history of it.

Mrs. G——, aged 45, of a slender make and delicate constitution, about five years ago, first perceived a tumour on the left side of the abdomen, of which, for some time, she took but little notice ; but, observing that it increased in size and extended over the whole abdomen, she paid more particular attention to it. It may be proper here to relate that, about twelve months before, she had been delivered of a large child after a very tedious and difficult labour ; and, upon observing her gradual increase of size, she began to suspect she was again pregnant. The symptoms of pregnancy, however, becoming less evident, it was natural to attribute the appearances to some other cause, and it was soon insisted upon

upon by her friends, that some medical assistance should be requested.

We are not able, however, to trace back the symptoms or treatment of the case farther than to the time when Dr. Sims attended her, during which period several other medical gentlemen also occasionally saw her. A variety of opinions was at this time entertained respecting the nature, the cause, and original seat of the disease: but observing the hardness of the abdomen, and not being able to discover any fluctuation, the enlargement was very generally supposed to arise rather from some solid fleshy substance, than from a morbid accumulation of any fluid.

During this period of the disease a variety of medicines was administered. Calomel was repeatedly used, and mercurial frictions were persisted in for some time, but without any apparent mitigation of symptoms.

Frictions, with oil, were tried; from these the patient thought she derived some advantage. Cremor tartari, digitalis, oxym. colchici, were all of them occasionally administered, but without any permanent relief. By the direction of Dr. Sims, a puncture at the umbilicus was made with a lancet,

upon which there was a discharge of some ounces of a glairy fluid.

It was not till some time after this that I had an opportunity of seeing the patient, and of inquiring into the nature of the case. At the first interview I thought her appearance the most striking that I ever beheld. Her size was enormous, and the form of the tumour very uncommon; the upper surface of it assuming so horizontal a direction, that it would have formed a convenient desk, upon which to have placed a quarto volume. Upon examining the state of the abdomen, I found a pretty equally extended tumour, though rather larger on the left than on the right side; the skin exhibited a very shining appearance; the veins were turgid and varicose; the integuments were so tense and hard, that it was difficult to make any impression upon them; the fluctuation was very indistinct, and sometimes not to be perceived.

Upon examining the state of the different functions, I found them, upon the whole, less deranged, than might have been expected. The pulse was, in general, in a tolerably natural state; though sometimes feeble and quick,

quick; and attended with occasional intermissions.

Respiration was frequently difficult and laborious, especially in a reclining posture; this, indeed, is not surprising, when we consider how much pressure there must have been on the diaphragm and other respiratory organs. The belly was frequently costive, in which state, as might be expected, most of the symptoms were considerably aggravated. The urine, though sometimes sufficiently copious, was, at other times, discharged in small quantities, and of a high colour.

The appetite was, in general, pretty good; though the digestion was sometimes impeded, and a degree of flatulence in the stomach occasioned uneasiness and pain.

The thirst was moderate, and, with a view to prevent an increased accumulation of fluid, the patient was contented to drink less than she might otherwise have chosen.

In the latter stages of the disease her sleep was much interrupted, and her nights, in general, very tedious: this was, in a great measure, owing to the difficulty of moving herself in bed, it requiring the assistance of

one or two strong persons to move her from one side to the other.

During the whole of the disease the catamenia continued regular till within a very few months of her death.

In some of the latter months of the disease an anasarcaous swelling of the legs appeared; which circumstance added to her distress, as it rendered her less capable of moving about the room.

After having seen the patient a few times, and observing that some fluctuation might be perceived, though it was, in general, very indistinct, I suggested to Dr. Sims the propriety of repeating the operation with the lancet, which he had before directed, or, of introducing the trocar if it could be done with safety. A meeting with Mr. Norris was accordingly appointed, who, upon examining the state of the abdomen, observed that the fluctuation was more distinct than he had before perceived it, and gave it as his opinion, that the operation of paracentesis might be performed with safety, but with little prospect of material advantage. Though a radical cure was not to be expected, and though the hope of any permanent relief was

was very feeble, it was determined that it should be proposed to the patient, as a measure from which some advantage might be derived. Her objection to the operation, however, occasioned its being deferred, and the same objection remaining, it was entirely given up.

The more powerful remedies having been tried in vain in the earlier stages of the disease, all that could now be attempted was the use of a few palliatives, in order to relieve the different symptoms as they occurred.

In order to obviate costiveness, which was sometimes very troublesome, gentle eccoprotic medicines were prescribed.

When the urine was scanty, the discharge of it was promoted by the use of different diuretics. Sometimes kali acetat, at other times different preparations of the squill answered the purpose.

The appetite sometimes failing, infus. gent. comp. with some aromatic tincture was administered.

Supposing that she derived advantage from the use of some simple remedies which were recommended by different friends, she was directed to continue the use of them; though,

when more operative medicines had failed, there was no probability that these should answer any material purpose.

In this, or nearly in the same state, every thing remained for several months, till within about a fortnight of the patient's death. At this time the difficulty of respiration was very much increased, comatose symptoms supervened, and other appearances indicated an impeded return of blood from the head.

The countenance exhibited every sign of approaching dissolution, a livid tinge covered her cheeks and lips, and afterwards a weak and intermitting pulse, with coldness of extremities, announced the speedy termination of her sufferings. A few hours afterwards she died in her chair,

APPEARANCES ON DISSECTION.

On the day after death the body was opened by Mr. Norris, in the presence of Dr. Sims, myself, and other medical gentlemen.

The parietes of the abdomen were so extremely thin, that the knife had hardly penetrated the common integuments, before a
fluid

fluid of a gelatinous consistence made its appearance, and was followed by several quarts of a different colour and of various consistence. When the integuments were laid back, and the cavity of the abdomen was fully exposed, a very large unequal tumour presented itself to view, reaching from the os pubis to the ensiform cartilage, and occupying the whole anterior region of the abdomen, displacing and concealing from view the intestines, and other viscera. Adhesions were formed between the tumour and almost every part of the peritonæum, lining the parietes of the abdomen anteriorly, from which this mass was carefully separated and traced down to the left side of the uterus, from which it was finally separated and removed into a large tub, in order to be farther examined. Previously to the examination of this extraneous mass, we proceeded to inspect the state of the different viscera contained in the abdomen.

The external surface of the stomach exhibited a very natural and healthy appearance.

The liver was of a colour rather darker than that which it assumes in its usual and healthy state, and of a more compact texture, though not in a scirrhus state.

The spleen was rather larger in its size, and of a firmer consistence, than usual.

The intestines were very much contracted in their size, as might be expected, from the very compressed state in which they must have remained for a considerable time.

The kidneys and bladder were in a very sound and healthy state.

Upon examining the uterus the whole body of it exhibited a very natural and healthy appearance. The fallopian tube on the right side, and likewise the ovarium, were in a perfectly sound state: but on the left side there was no appearance of these appendages of the uterus, except what the tumour afforded, which, without doubt, was a morbid enlargement of the ovarium.

The mass which had been removed from the left side of the uterus, as before related, was found, upon examination, to consist of a large number of cysts of different structures and of various contents. Some of these were of a membranous structure, and others of a thick fleshy substance. Some of them discovered a scirrhus-like hardness, and others were composed, in part, of a substance of a cartilaginous structure. These, though separate cysts, were very closely united, and,
in

in some instances, seemed to communicate with each other.

The contents of the different cysts varied very much in their colour and consistence. In some of them they bore a resemblance to the serum of the blood; in others they were of a gelatinous consistence: in some they assumed a purulent appearance, and in others were of a sebaceous or steatomatous consistence.

The solid substance, after the evacuation of the fluids, was weighed, and its weight amounted to $31\frac{1}{4}$ lb.

The different fluids, which were collected, amounted to seven gallons. So that it appears that the patient must have been incumbered with an extraordinary weight of nearly 90 lb.

After thus relating the various symptoms and extraordinary appearances of the present case, I shall take the liberty of making the following observations.

This species of dropsy, though less frequent than others, has been sometimes detected by an inspection of bodies after death. Were the opportunity of inspection more frequent, or did the public prejudice interfere less with this mode

mode of ascertaining the nature, the seat, and causes of disease, it would probably be found, that many of those diseases, which are included under the general term dropfy, and which have passed for ascites or anasarca, or a combination of both, are of the species which has now been described. A case, in some respects, similar to the present, was related by Dr. Pulteney, and is preserved in the Memoirs of the Society. In this case the solid mass described bore a near resemblance to that which has been the subject of a part of the present paper: but the disproportion in the quantity of fluid was very great, since the whole, which could be collected in that instance, amounted only to four or five pints, whereas, in the present instance, there was more than an equal number of gallons.

Of hydatids, which have been very commonly discovered in similar cases, not any were to be found in the present instance. Could the present mass have been formed originally from hydatids, the coats of which, in the long course of five years, were thickened to the degree in which the coats of the different cysts were discovered? Or can it be supposed

supposed that the different cysts, which composed the mass that has been described, bore any analogy to the number of vesicles in the original structure of the ovarium?

From the nature of the disease, which was so fully ascertained by dissection, it appears evidently to have been out of the reach of medicine, and adds another instance to the many which have occurred of the discovery of the cause of the disease, with the mortifying proof that nothing could be done in a similar case, from which the hope of a cure could be derived.

It appears probable, however, in the present instance, that, if the patient would have submitted to the operation proposed, a considerable quantity of the inclosed fluid might have been discharged. This appears pretty evident from the quantity which escaped as soon as the integuments were punctured. Part of the pressure on the different viscera might in this way have been removed, the respiratory organs might have been, in some measure, relieved, and that state of suffocation which seemed to be the more immediate cause of death, might have been postponed to a later period.

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A P P E N D I X.

A R T I C L E XLII.

*A Case of Cæsarean Section.**

By WILLIAM WOOD,

MEMBER OF THE CORPORATION OF SURGEONS IN
LONDON, AND MAN-MIDWIFE IN ORDINARY TO THE
LYING-IN HOSPITAL IN MANCHESTER.

ELIZABETH THOMPSON, of Hazlehurst, near Ashton-under-Line, aged thirty-two, was brought to the Lying-in Hospital, on Monday the 24th of last June. I saw her in the afternoon, and was informed that labour came on about one o'clock in the morning; that the membranes burst soon after; that her pains had been very frequent; and that Mr. Ogden, a surgeon in that neighbour-

* This paper having been received too late for regular insertion, the Society have thought proper to give it place as an Appendix.

hood, was called in, who, upon examining her situation, thought proper to send for Mr. Simmons from Manchester. No attempt was made by either of these gentlemen to deliver the patient ; but she was advised to become an in-patient of the Lying-in Hospital in Manchester ; and the poor woman and her friends readily agreeing to this proposal, she was conveyed in a cart from her house, which is nine miles distant from the Hospital, and some parts of the road are very rugged.

Upon a careful examination *per vaginam*, I found the pelvis so much deformed at the superior aperture, that the space from the *symphysis pubis* to the *os sacrum* would only admit the points of my two fingers, and could not exceed an inch ; and there was not in any other point, from the anterior to the posterior part of the superior aperture, a larger space than would admit the introduction of one finger ; nor could I perceive the least appearance of *os uteri* or any part of the child, although I introduced my hand into the vagina.

On discovering the extreme deformity of the pelvis, I desired a consultation of the men-midwives belonging to the Hospital. Messrs.

White, Hall, Tomlinson, and Thorp, attended, and having examined the poor woman with great care and attention, we were unanimously of opinion, that the delivery could not be accomplished by any other means but the Cæsarean section. She was made acquainted with our sentiments, and very willingly submitted to our proposal.

About nine o'clock that night I performed the operation in the following manner, in the presence of the gentlemen before mentioned, who very obligingly gave me every necessary assistance: I began the incision on the left side, a little below the *umbilicus*, and having cut carefully through the parietes of the abdomen, which were very thin, to the extent of an inch, I introduced my finger, and, using it as a director, enlarged the wound by a probe-pointed bisturi, in an oblique direction towards the spine of the ilium, to about six inches. The uterus was placed in immediate contact with the parietes of the abdomen, at the upper part of the incision; but towards the lower angle of the wound the intestines intervened, and began to protrude. As soon as the external incision was completed, I made an opening in the same manner, and in a

similar direction, into the uterus, which appeared to be nearly half an inch in thickness, and with great ease extracted, by the knee, which presented at the wound, a large male child, which for a few minutes was in a very weakly state, but soon recovered, and continues strong and healthy.

The placenta was brought away without any difficulty. The intestines protruded at the wound, but were returned and retained in the cavity of the abdomen, whilst I secured the lips of the wound by the interrupted suture, carefully avoiding passing the needle through the peritonæum. The ligatures were placed about an inch distant from each other, and the intervening spaces were supported by slips of adhesive plaister, over which I placed a common pledget; and a flannel bandage was applied, so as to occasion a moderate degree of pressure upon the abdomen. The quantity of blood lost during the operation was not considerable. It did not appear to exceed eight ounces, and mostly proceeded from the uterine vessels.

The patient bore the operation with such remarkable patience and fortitude, that she was scarcely heard to complain.

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As soon as she was removed from the table, and laid in bed, she became sick and vomited; and her pulse at this time beat 130 strokes in a minute. An opiate was administered, and I saw her in two hours after the operation. Her pulse was reduced to 100, and no ways irregular. She had got some comfortable sleep, and the sickness had not returned.

I saw her again, along with the gentlemen before mentioned, on Tuesday at eight o'clock, A. M. She had got some comfortable sleep during the night: her pulse 106.

She had voided a considerable quantity of urine; had a moderate discharge *per vaginam*; and she did not complain of much pain. A small quantity of bloody serum had oozed from the wound.

At two P. M. we found the appearances much the same as in the morning. As the patient had no evacuation by stool, an emollient clyster was prescribed.

Ten o'clock P. M. she had experienced a return of the vomiting, and complained of more pain of the abdomen; but upon removing the bandage, we did not perceive any material degree of tension. Her pulse 108, and rather hard. The clyster not having

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procured

procured a stool, she was ordered to take half an ounce of a purging salt immediately, and if it should have no effect, or not stay upon the stomach, she was to take a pill containing three grains of calomel, and one grain of purified opium.

On Wednesday at seven, A. M. we found that her sickness returned in an hour after the salts had been given, the pill was then administered, and the vomiting did not return for several hours after, but no evacuation had been procured. She had got little sleep during the night, and still complained of pain in the lower part of the abdomen. Her pulse was 120, and rather hard, tongue white, and skin dry. She was directed to take five grains of calomel made into a pill with conserve.

At twelve we found that her sickness had returned in about two hours after taking the pill, and that no stool had been procured. Her pulse was about 144, and she was in a violent state of perspiration. Half an ounce of castor oil was directed, and a purgative clyster to be injected immediately. At four, P. M. her pulse was much in the same state; she had experienced no return of vomiting, and seemed more composed. The clyster
had

had been retained, and she was ordered another, composed of two drachms of tobacco infused in half a pint of boiling water.

Nine o'clock P. M. we found her much in the same state as when we last saw her. The injections had come away, but there was very little appearance of fæces. Her sickness was not so troublesome, pulse 140. As she complained of more pain in the lower part of the abdomen, the bandage and dressings were removed, but there was very little tension. The wound had a very favourable appearance, and the lips were in contact. Dressings were applied as before, and she was ordered to repeat the pill with calomel, and if it should not operate in three hours, a clyster with half an ounce of common salt was to be administered, and, as soon as an evacuation was procured, she was to take a grain of purified opium. A blistering plaister was also applied to the abdomen, where the pain was felt.

Thursday, seven o'clock A. M. she had passed a tolerable night, the blister had risen, and she seemed more composed; pulse 150. As the injection had been retained, she was ordered a suppository of soap.

Two

Two o'clock P. M. appearances were much more unfavourable. She had very frequent vomitings of a coffee-coloured fluid. The pain in the abdomen was very much abated. Her pulse was very feeble, and beat more than 160 strokes in a minute. Till this time she had observed an antiphlogistic regimen: but was now ordered wine in gruel and whey, and to take a bolus containing musk and salt of hartshorn, of each ten grains, which was to be repeated in four hours. As the clyster had been voided without any appearance of *æces*, another injection was ordered to be thrown up, with some degree of force, by a syringe.

At nine o'clock the symptoms were become so extremely unfavourable, as to preclude all hopes of her recovery; nor was she likely to remain alive many hours. Her pulse was excessively frequent, small, and irregular. She had incessant sickness and vomitings, was very restless, and her respiration much hurried. The injection had come away, but without producing any effect. From this time she sunk gradually, and expired on Friday about one o'clock A. M. which was seventy-six hours from the time of the operation being performed.

performed. She retained her senses to the last.

APPEARANCES ON DISSECTION.

In about six hours after her death I inspected the body, in the presence of the gentlemen before mentioned, and some others, and found that the edges of the external wound were in close contact, but only a very slight adhesion had taken place. On exposing the cavity of the abdomen, there appeared to be about ten or twelve ounces of a bloody serum, but not much coagulated blood. There was very little appearance of inflammation, either of the peritonæum or intestines. The latter seemed much distended, but there did not appear to be any accumulation of hardened fæces.

On examining the uterus, which was about seven inches in length and four in breadth, we found its mouth very much dilated. The wound, which extended from the fundus obliquely downwards about four inches, was not at all united, and there was very little appearance of inflammation about it, but the inferior portion of the body and *cervix uteri* were evidently in a gangrenous state.

REMARKS.

REMARKS.

The deformity, above alluded to, was produced in the adult state by *Malacosteon*.

About nine years ago the poor woman brought forth a living child, and had an easy labour. After this confinement she was frequently affected with pain about her loins, and some degree of lameness. She conceived again, and Mr. Hall informed me that he attended her in labour about seven years ago, and, at that time, found the pelvis so much distorted, that he was under the necessity of opening the head of the child, and delivering by the crotchet. Her state of health after this was somewhat tolerable; but the pain about the loins continued to increase, attended with the lameness, but never to so great a degree as to prevent her walking.

From the inclination of the *fundus uteri* to the left side; from the parts of the child that presented upon opening the uterus; and from the particular curvature of the spine, as appeared upon inspecting the body, the *os uteri* and child's head appear to have been forced upon the right side of the pelvis, and to have remained considerably above the superior aperture,

ture, which prevented their being discovered upon an examination *per vaginam*.

From a review of the case, there is very great reason to suppose that her death was not occasioned by the operation, but by the gangrene that had taken place in the *cervix uteri*, which in my opinion must have been occasioned by the pressure of the child's head upon that part, prior to the operation; and I am induced to believe, had the operation been performed earlier, and at the patient's house, she would have stood a great chance of recovering. The pelvis was removed, and when carefully divested of all the soft parts, the dimensions were found as follow :

The *lumbar vertebræ* projected inwards, and made a considerable curve to the left, as will be seen in the annexed plate.

The distance from the lower part of the second *lumbar vertebra* to the anterior part of the spine of the *os ilium*, on the left side, is two inches.

The distance from the lower part of the second *lumbar vertebra* to the anterior part of the spine of the *os ilium*, on the right side, is five inches.

From

From the crista of one *os ilium* to the other, at the most distant points of the pelvis, measured ten inches and a half.

SUPERIOR APERTURE.

The conjugate or antero-posterior diameter from the *symphysis pubis* to the upper edge of the last *lumbar vertebra* A. A. (see the dotted outline) is one inch and a half.—This diameter is not taken from the *os sacrum*, or its junction with the last *lumbar vertebra*, because the point of their junction is so much sunk into the pelvis, that the place it should have occupied is represented by the fifth *lumbar vertebra*.

The transverse diameter G. G. measures four inches and five eighths. It is taken from one *sacro-iliac symphysis* to the other.

The distance of the point of this aperture, which is opposite to the anterior part of the right acetabulum, from the *lumbar vertebra*, C. C. is only half an inch.

The distance from that part of this aperture which corresponds with the posterior
part

part of the right *acetabulum*, to the *os sacrum*, D. D. is three quarters of an inch.

The distance of the point corresponding with the anterior part of the left *acetabulum*, from the *lumbar vertebra*, in the direction E. E. is five eighths of an inch.

The distance of the point of this aperture, opposite to the posterior part of the left *acetabulum*, from the *os sacrum*, in the direction F. F. is three fourths of an inch.

The distance of one *os pubis* from the other, in the points marked B. B. is seven eighths of an inch.

The distance from the right *sacro-iliac symphysis* to the *symphysis pubis*, G. A. is three inches and three fourths.

The distance from the right *sacro-iliac symphysis* to the left *os pubis*, G. B. is three inches and three eighths.

The distance from the left *sacro-iliac symphysis* to the *symphysis pubis*, G. A. is three inches and five eighths.

The distance from the left *sacro-iliac symphysis* to the right *os pubis*, G. B. is three inches and one fourth.

The largest circle that can be formed in any part of the superior aperture, does not exceed in diameter one inch.

INFERIOR APERTURE.

The distance from one *ramus ossis ischii* to the other, where they are united with the *rami pubis*. measures only half an inch.

The distance from the tuberosity of one *os ischium* to the other measures one inch and two tenths.

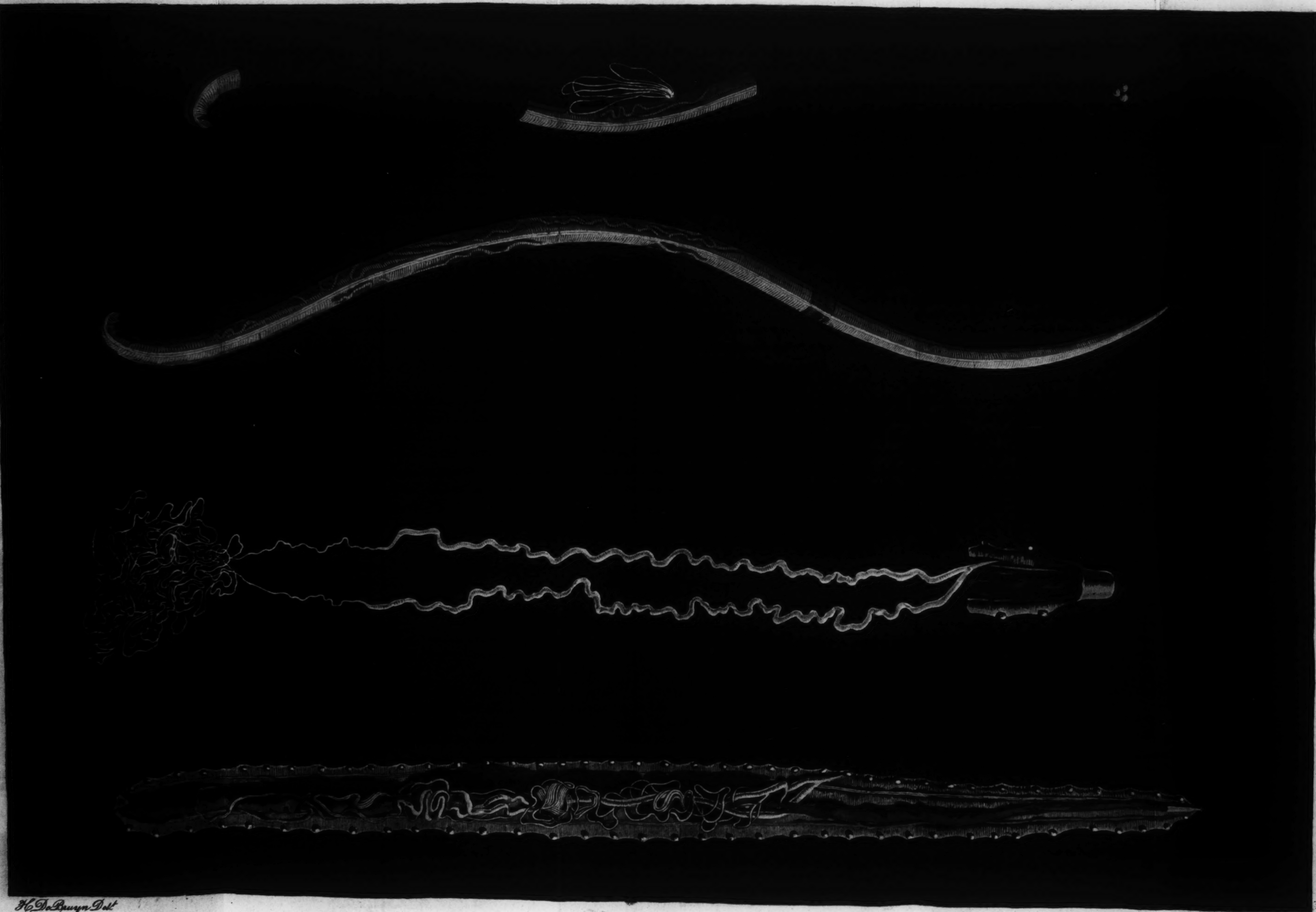
The conjugate or *antero-posterior* diameter, taken from the *symphysis pubis* to the point of the *os coccygis*, is three inches.

END OF THE FIFTH VOLUME.



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DONATIONS



H. De Bruijn Del.

Ascaris Lumbricoides.

T. Medland. Aquatinta

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H. De Busyn Del.

T. Medland Aquatinta.

Ascaris Vermicularis.

Published Dec. 1. 1799. by J. Johnson. St. Pauls Church Yard, London.



H. De Meijere Del.

Trichuris.

Published Dec. 7. 1798. by J. Johnson, St. Pauls Church Yard, London.

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Tania osculis marginalibus.

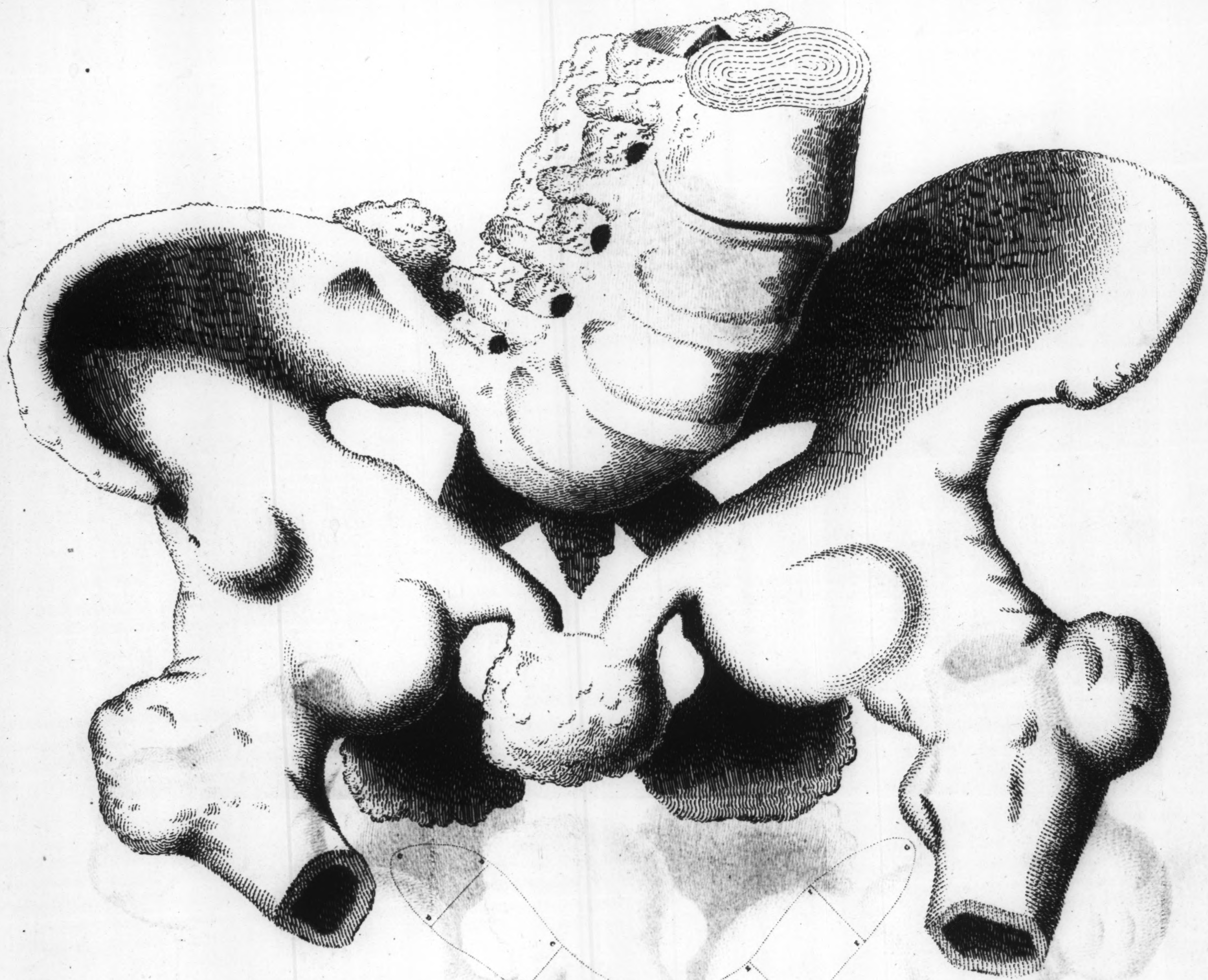
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